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THE ARCHITECTURAL JOURNAL

BEING THE JOURNAL OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

VOL. XXII. THIRD SERIES, 1915



A285

JOURNAL

OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

NOVEMBER 1914—OCTOBER 1915

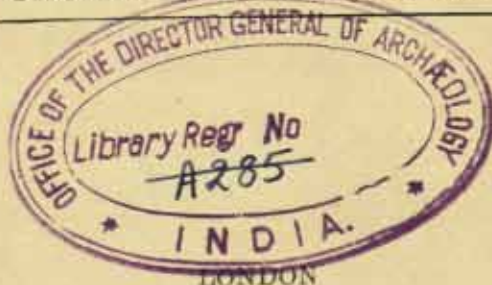


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JOURNAL

OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

Eighty-first Session—1914-15.

ADDRESS BY THE PRESIDENT, MR. ERNEST NEWTON, A.R.A.,
at the Opening General Meeting, Monday, 2nd November 1914.

LADIES AND GENTLEMEN.—The President is supposed to employ himself during the recess in preparing an Address for the opening night. Unfortunately, or may I say fortunately for you, my time has been occupied in other ways, and you will be relieved to know that I am not going to inflict an Address upon you. I felt—and I am sure you will agree with me—that this was not a time for dinners, addresses, and the usual accompaniments of the opening night of the Session. Our thoughts are elsewhere, and although I think we ought, as far as possible, to carry on the necessary business of the Institute, I feel that social functions would be out of place. I shall therefore content myself with a very simple statement of what we have done, are doing, and propose to do, during the Session which technically opens to-night.

On the outbreak of the war, the Institute formed, with the co-operation of other architectural bodies, a War Committee. The machinery, being new, has creaked a little, but I think I may say that it is now running smoothly and doing useful work. Subscriptions were also invited for the Prince of Wales's Fund, and for relieving distress amongst architects caused by the War. The Institute gave a donation of 100 guineas in August to the Prince of Wales's Fund, £249 11s. has now been collected, and £210 has been forwarded to the Treasurer of the Fund as a first donation. We have been able to hand over £591 19s. 6d. for the relief of distress consequent on the War to the Architects' Benevolent Society, which proposes to open a special account for this purpose. The Professional Employment Committee, believing that it is better, if possible, to provide employment than to relieve by means of doles, is arranging a programme of work which might usefully employ men whose ordinary practice has come to a standstill. £162 8s. has been received specially earmarked for this purpose, and the Committee hope to receive further financial support not only from architects, but from the public generally.

The Selection Committee is concerning itself in tabulating useful information with respect to special services that may be required by the Government, and in organising assistance to carry on the work of architects who have joined the Forces. They have already done most useful and valuable work.

The Architectural Association has concerned itself more with the Military part of the War Committee's programme. Many of its members, following the high example of self-sacrifice and devotion to his country of Mr. Maurice Webb, the President, have enlisted in the New Army. Not content with this, they have formed an Architects' Volunteer Training Corps. This Corps has been able to assist the Government and Regular Forces by acting as a recruiting agency to enlist and classify men volunteering for Military Service, and in many other ways. The scheme has met with the approval of distinguished

military officers and has, I understand, been recommended by them to Lord Kitchener as the model to which all the unofficial Training Corps throughout the country should conform.

It is obvious that this important work cannot be done without expense, and there is at present no particular fund on which the Corps can draw. The Council of the Institute has made a grant of £50, but further contributions are required.

Under the Presidency of Mrs. Maurice Webb, a committee has been formed to keep in touch with, and look after, the welfare of the Architectural Association recruits and those whom they have left behind, and I hope, although I know you are receiving appeals every day, that this particular appeal will touch you very nearly, and that all who can respond to it will do so generously. Some copies of the circular have been distributed to the meeting.

I am afraid that, so far, I have done nothing but call your attention to the various funds which invite donations, but you will nevertheless allow me to say that none of the subscription lists are closed, and that contributions to all of them will be welcome.

Architects have responded well to the call for soldiers, and so far as I have been able to get information, there are probably not far short of 1,000 serving with the Colours.

Ladies and Gentlemen, I feel that we have reason to be proud of our young brethren who have been ready without a moment's hesitation to give up comfortable homes and good prospects to serve their country at a time of need.

In regard to internal affairs, I have thought it right—and here again I am sure of your approval—to drop for the moment all controversial matters, and therefore no further steps have been taken in connection with the New Charter.

I hope that when the time comes for going forward with the work, this period of trial and anxiety through which we are passing may draw the sting of controversy, and that we may concentrate on our many points of agreement, rather than on those few on which we differ. Let us bear in mind, too, that Fellows, Associates, Licentiates, and men outside the Institute or any other body, are now serving their country under the one title of *registered*, or rather, enlisted soldiers; any further distinction will be earned by their own ability and bravery.

It has been decided to hold the Examinations as usual, but the Council have resolved to postpone the Prizes and Studentships Competitions for 1915 until the year 1916, and that those candidates who, under the age limit, are eligible in 1915 shall be considered eligible for the Competitions for the year 1916.

I find that my short address has already grown much longer than I meant it to be, but I feel that I cannot conclude without reference to the terrible havoc wrought by Germany in her mission to spread "culture" throughout Europe. On the destruction of Louvain we, in common with the Royal Academy, the Society of Antiquaries, and other bodies, sent a protest to the American Ambassador, which was duly forwarded to Washington. Since then we have felt that all further protests would be useless. The spread of "culture" continues, Rheims has suffered irreparable damage, and day by day adds to the list. We can only offer our heartfelt sympathies to our allies. Belgium has lost priceless treasures, but she has preserved the most priceless of all, her honour. I have said that we can only offer our sympathies; but we can do something more. Many French and Belgian families have come to England. Let us seek them out and do all that we can not only to see that their material needs are provided for, but to make them feel that they are welcome.

I now propose to put the following resolution to the meeting, which I hope will be carried with acclamation:

"That messages be transmitted to the Governments of France and Belgium expressing, on behalf of the Royal Institute of British Architects, their profound sympathy with the peoples of those countries in the terrible losses which they have suffered by the destruction of so many of their most famous and beautiful buildings and monuments."

Mr. REGINALD BLOMFIELD, R.A., *Past President*: I would like to second that resolution. I will not make a speech, because, as our President has rightly said, this is not an occasion for speeches. He has given us an admirable résumé of the present serious condition of affairs, and what the Institute and the Association are doing to meet it. But this matter of sympathy with our Belgian friends in the terrible losses they have suffered is a different question. We are not speaking now of their terrible losses in men—their husbands, brothers, and sons—but of those beautiful buildings that we architects, of all people in the world, know most how to value. But it is not a matter we can talk upon at all; we feel too strongly upon it. I will therefore, Sir, simply second this resolution.

The resolution was then put and carried unanimously.

REVIEWS.

ARCHITECTURE OF HUMANISM.

The Architecture of Humanism: A Study in the History of Taste. By Geoffrey Scott. 80, Lond. 1914. 7s. 6d. net. (Constable & Co., Ltd.)

It is always gratifying to meet with a work on the philosophy of architecture from the pen of one who himself is practising the art, and we regret that so few architects are willing to undertake this most useful labour. No amateur, however instructed, can speak with equal authority, or discuss the theory of the art so impressively. For this reason, as well as for its high merit, we welcome Mr. Scott's book; and, though we may not be able always to agree with him, we recognise and appreciate his serious purpose, his philosophic temper, the stimulating freshness of his thought. The volume, though not a large one, covers an immense field, every chapter opens up a crowd of questions which it would be a pleasure to discuss fully with the author. All that we can attempt here, however, is to touch briefly on a few of the simpler and more elementary of these questions, and to recommend all who are interested in the subject to pursue it, under Mr. Scott's guidance, in his suggestive pages.

It seems capricious to quarrel about a title, yet "The Architecture of Humanism" is open to objection. Custom restricts the terms "humanist", "humanism", to a single brief period, the earliest and perhaps the most inspiring and luminous phase of the Renaissance, to that brilliant moment of history when the New Learning and the New Art first took possession of the stage. The New Learning was *Humanism*, as opposed to the *Scholasticism* which, up to that time, had engrossed the intellect of Europe; a literature of human life, human interests, in contrast with a literature of theology and moral philosophy. The name is distinctive of an epoch of change and conflict, it loses its significance in later times, when the conflict had been decided. So that to apply the epithet of humanist indiscriminately to all Renaissance architecture "from the revival of classic forms at the hands of Brunelleschi, in the fifteenth century, to the rise

of the Gothic movement"—as Mr. Scott does,—is a little disconcerting. We seem to lose the sense of achieved distinctions, to be mixing up things which, in temperament, really differ profoundly. There is no period of architecture in which it is more necessary to distinguish between schools, between times and places, than the Renaissance period; moved as it was this way and that by fluctuating currents of opinion,—literary, philosophic, artistic,—dependent as it was on these currents of opinion, and not on a popular impulse. Mr. Scott points out, quite truly, that the Gothic revival was due to influences mainly literary; the same thing may be said, with equal truth, of other revivals, and surely, with equal truth, of the Renaissance in all its phases. And with good reason! for the impulse which leads people to resuscitate by-gone modes is an intellectual, not an aesthetic, impulse; its origin is in the cultivated literary taste, not in a movement of the popular mind. In some passages Mr. Scott seems to imply, perhaps inadvertently, that it was the Gothic revival which broke the Renaissance tradition, in others he sanctions the received opinion that this tradition,—with so many others!—was broken up by the French Revolution. The tradition was broken, perhaps beyond repair, but the habit of mind on which it reposed was not broken, it persisted. The Gothic revival, the other revivals, may be traced to just the same *kind* of intellectual influence as the Renaissance itself;—a literary taste, or preference, for some old-time mode of civilization, and a desire for architectural forms sympathetic with it. Not the least hopeful sign at the present day is the serious effort to free architecture from this servitude, to direct its appeal less to the special tastes of the scholar and the antiquary, more to the popular imagination.

But in later chapters,—chapters novel and profoundly suggestive,—Mr. Scott takes "Humanism" in a very different sense, in a sense not historical but psychological, and this is by far the most valuable part of the work. In the chapter "Humanist Values", speaking of the Greeks, he says "their thought was anthropocentric, so also was their architecture", and his whole theory is an expansion

of that text. He conceives of architecture as a humanised pattern of the world, of the architect as constructing, "within the world as it is, a pattern of the world as he would have it". And this pattern is partly a subjective reflection of human physical conditions, an "echo to the body's music,—its force and movement and repose—"; partly an objective reflection of mental conditions, of that order which "is the pattern of the human mind". The humanism of architecture in fact is "the tendency to project the image of our functions into concrete forms", and Mr. Scott regards that as "the basis... of creative design". As we understand it, this imaginative synthesis is sub-conscious, intuitive; the condition assumed is a mental state, a mood, not dependent on will, nor easily responsive to conscious effort,— "architecture is unconsciously invested by us with human movement". Yet this mental activity of which we are not directly conscious, this mood which does not respond to our will, this *personality*, is the one indispensable thing for the artist, the condition of all creative work. "The naive, the anthropomorphic, way which humanises the world and interprets it by analogy with our bodies... is still the aesthetic way... it is the foundation of architecture". And so, in this new sense, the title of the book justifies itself. Humanism, not now the mark of a definite historical school, or style, not now bearing the accent of a literary movement, becomes really a criterion of all architecture. "Architecture, to communicate the vital values of the spirit, must appear organic like the body".

But we are ashamed of the injustice of fragmentary quotation. The chapters in which this theory is developed, in language of singular felicity, deserve to be studied closely as a whole. If Mr. Scott will pardon the remark we think that he hardly realises how important, how comprehensive, the theory really is. We wish that he could have devoted a much larger part of the work to a fuller examination, a more thorough analysis, of it, even at the sacrifice of some other less valuable parts.

In truth the book would have been better without its polemic, an echo of far-off and half-forgotten controversies,—those dusty heated controversies of the nineteenth century which some of us can remember, with their uncritical "classic" and "gothic" standards. The old rhetoric is faded now, the old arguments are out-worn and unconvincing. And yet among much that has lost interest, even meaning, for the modern student, we come here and there on questions which go down to the very roots of things, questions which must be settled this way or that before we can hope for an intelligible theory of architecture. The relation between structure and aesthetics, for example, what is it really? Can there be such a thing as structure without aesthetic? It is inconceivable to me. An architect may fix his attention wholly on construction, and may exclude aesthetics from his mind entirely. But when that

construction,—say a railway bridge,—becomes manifest, as a visible and tangible object, it appeals instantly, inevitably, to the senses; pleasing or unpleasing it is an aesthetic result. Or again, can there be such a thing as an aesthetic result without construction? Obviously not, the merest decorative scheme must be constructed in some way, and the observer's instinct assumes structure whether he actually sees it or not. So far we imagine that we are in agreement with Mr. Scott; but he seems to think, if we understand him, that the less the constructional element is exhibited, or is allowed to obtrude, in architecture, the better for the aesthetic element; that the Italian Renaissance in general, the baroque in particular, derive great aesthetic advantages from a disregard of, or an indifference to, the element of construction. At this point, with regret, we part company with him. Architecture is the aesthetic of construction. The two elements, structure and aesthetic, since of necessity both must be present always in it, are to be brought into communion, into organic unity; not merely combined, but so interfused that it may seem almost a matter of indifference, in regard to any part or feature of a building, whether we are to call it a necessity of the structure or a necessity of the aesthetic. Such perfect identification is the *ideal*,—how seldom achieved!—a flawless unity, as of Rossetti's ideal Lady:—

"Whose speech Truth knows not from her thought
Nor Love her body from her soul."

Indeed, is not all art obedient to laws similar or parallel to this? In poetry, for example, we perceive an element imposed from without, irrespective of the poet, which we will call, for the moment, the *natural* element; and we perceive another element given by the poet's own mind, which we will call, also for the moment, the *artificial* element;—to fuse these two elements into one indissoluble whole is the business of poetry.

"See where the Child of Heaven with winged feet
Runs down the slanted sunlight of the dawn."

Here the natural and the artificial are fused by the heat and magic of Shelley's genius into one entire and perfect image, and a beam of the yet unrisen sun becomes a pathway for the Messenger of the Gods.

Architecture is a constructional art; whatever else it may be,—and it is much else,—it is that. It is a constructional art by its nature, by its origin, by its life-story. Mr. Scott calls it an art of form, well then, of structural form, not of abstract form. Is there really such a thing as abstract beauty of form? Nature supplies us not with beauty of form in the abstract, but with an infinite number of beautiful forms, each appropriate to some structure. The form of a mountain side is beautiful, we feel it to be so, yet the same form in another object,—the human face for instance,—might be repulsive. In Nature we perceive structure in beautiful forms, not abstract

beauty either of line or surface. I am unable to conceive of abstract beauty of line, every line is beautiful in its place, as appropriate to, or expressive of, structure. Mr. Scott thinks that Renaissance architecture, the baroque especially, by its comparative freedom from the pressure of structural law, was able to devote its energy to abstract beauty of form. But is that really the fact? What one feels about it is that its forms are structural forms used very often without structural reality, without, at best, the sentiment of structure. The characteristic note in it, surely, is not abstract form but actual, well-known, structural forms divorced from construction, used in fact as decoration. A façade by Borromini seems more a stage effect than architecture, the appeal is to sense only, not through sense to the imaginative reason.

We are not denying to baroque architecture a peculiar fascination, at its best there is genius in it,—energy, vivacity, an impatience of formalism, of the commonplace. A sincere critical study of the buildings in Rome which date from the pontificates of Pope Sixtus V. and Pope Paul V. would be a valuable addition to architectural literature. But it must be impartial! sympathetic of course, but not blind to defects which are really as characteristic as excellencies. The warts must not be omitted from the portrait. Is it not Arnold who tells us that the first duty of criticism is disinterestedness,—to show the object as it really is? And, in the case of the baroque, it will not be necessary for the *advocatus diaboli* to say with Ruskin, that it is base and immoral, nor, with Anderson, that it is decadent; it will be enough to say that it is *eccentric*. If I were to see a friend coming down the street with three hats on his head, one above another, I should think him eccentric, to the verge of imbecility. And when I see buildings with three pediments, of different shapes, one over another, I cannot help feeling that here is a school of architecture which has taken leave, not only of construction, but of common sense also. Common sense! well, we resent its intrusions, we all like to go our own licentious way. And yet it has its place, its uses; to restrain art from becoming whimsical, affected, perverse; in a word,—if Mr. Scott will allow it,—from becoming *baroque*.

No art can survive long without a rule or determining impulse of some sort. The architects of the Renaissance quite certainly did hold themselves free, as far as was possible, from the control of the old structural principle in architecture, but on the other hand they admitted a new law, self-imposed, addressed solely to æsthetics, the law of the Orders, the Vitruvian canon. Mr. Scott is sure that Renaissance architecture gained immensely by this change, by the substitution of a purely æsthetic code for the old preoccupation with structure. We find it difficult to share his conviction on this point. Surely a code of laws which is addressed to æsthetic *directly*, as the Vitruvian code is, must have a more cramping

influence on the imagination than structural law can have, which influences æsthetic only *indirectly*, which while it compels also impels, while it limits also defines, while it controls also suggests. In fact is not this precisely the defect which is charged most frequently against the Renaissance, that in it the imagination has too little play, too little freedom of movement? And further, what authority can an arbitrary self-imposed law claim? The great architects of the Renaissance themselves did not hesitate to take liberties with the Vitruvian rules. What is the good of a law which may be obeyed or not, which is rooted in no authoritative principle? It may be said that, though these æsthetic rules of the Renaissance possess no authority in themselves, yet they derive strong authority from taste. But taste also has no authority, no compelling force. People can be brought to agree about principles, but it is a commonplace that nothing will reconcile differences of taste. Taste, in fact, is idiosyncrasy, it is a name which covers all those inscrutable habits and dispositions, those instinctive preferences and aversions, those small prejudices quite outside reason, which go to make up personality. It is here principally that we differ, not agree; neither education, nor argument, nor scholarship, nor agreement in principles, will suffice to obliterate differences of taste. If I am told that such and such things are of the best taste, that there is strong evidence of their being so, that a great number of very distinguished people have held that they are so, I answer:—but are they *really* so, are they so to *me*, now, and under these circumstances?

Mr. Scott devotes two chapters to what he calls "The Romantic Fallacy," not, as we think, with much success. It is evident that he dislikes very keenly some of the errors and excesses of Romanticism, and that, on account of these mistakes, he is inclined to treat the Romantic element in art rather cavalierly. Indeed his definitions of Romanticism are so extraordinary that we can hardly believe that he intends them to be taken seriously. Romanticism, he says, consists in "a high development of poetical sensibility towards the remote as such." "Its most typical form is the cult of the extinct." Again, "It allows the poetic interest of distant civilization to supplant æsthetic interest of form." And again, "it is inspired by the distant and the past." No very critical eye is needed to see that all this is directed principally against the Gothic revival; as a definition of the Romantic in art it cannot be received for a moment. According to this theory Renaissance architecture must be pronounced Romantic, for without question it was a cult of the extinct, without question it was inspired by the distant and the past. And Mediæval architecture must be called un-Romantic, or perhaps "classic," for quite certainly it did not allow the poetic interest of distant civilization to supplant æsthetic interest of form. By Mr. Scott's definitions all architecture

since the fifteenth century is Romantic, and all architecture before that date—Greek, Roman, Romanesque, Byzantine, Arabian, Gothic—is not Romantic. Would such a classification satisfy him? But, in the ordinary acceptance, we take "romantic" to mean just that element in art which is the opposite of the commonplace and the prosaic, just that magic, in fact, which turns paintings, statues, buildings, into works of art; which turns verses into poetry. All new experiences are romantic to us for the time, unaccustomed scenery for instance, Swiss mountains. But art is of necessity, and by its very nature, romantic. Unromantic pictures, unromantic verses, unromantic architecture, are by no means inconceivable! but these in truth are the failures. Art is romance; if it were not that, what use should we have for it? Nature gives us beauty, Nature affords delight to the senses, art must offer us something different. And the one thing that we desire from art, really, is *life*, more life, a keener consciousness of living. From a world out-worn, a world of the commonplace, of prosaic fact, of routine, we turn to art for a new world, a world of strange experiences, of intense situations, of unconventional emotions;—in fact for a *Romantic world*. Art is of the imagination, and is addressed to the imagination—what can the imagination deal with but the romantic? With fact? yes, but with romantic fact, with fact treated romantically. The artist, in Mr. Scott's fine phrase, constructs "within the world as it is, a pattern of the world as he would have it," surely, a romantic world. The Greek spirit itself was romantic; is there no romance in the Attic drama, in the *Agamemnon*, in the *Medea*? For our part we cannot doubt that, to the Athenian of the fifth century B.C., the temples on the Acropolis were romantic art, a fresh and enchanting experience, a newly-created "pattern of the world as he would have it."

It seems unpardonable to have devoted so much attention to the mistakes, as we think them, of Mr. Scott's admirable book. We have done so partly, no doubt, because we are of a disputatious temper; but chiefly, it may be hoped, because we feel that it would be a serious loss to architectural literature if Mr. Scott were to suffer his fine critical ability to be cramped by prejudices. For no theory of architecture has the smallest chance of finding acceptance unless it can be applied, impartially, to all the various manifestations of the art.

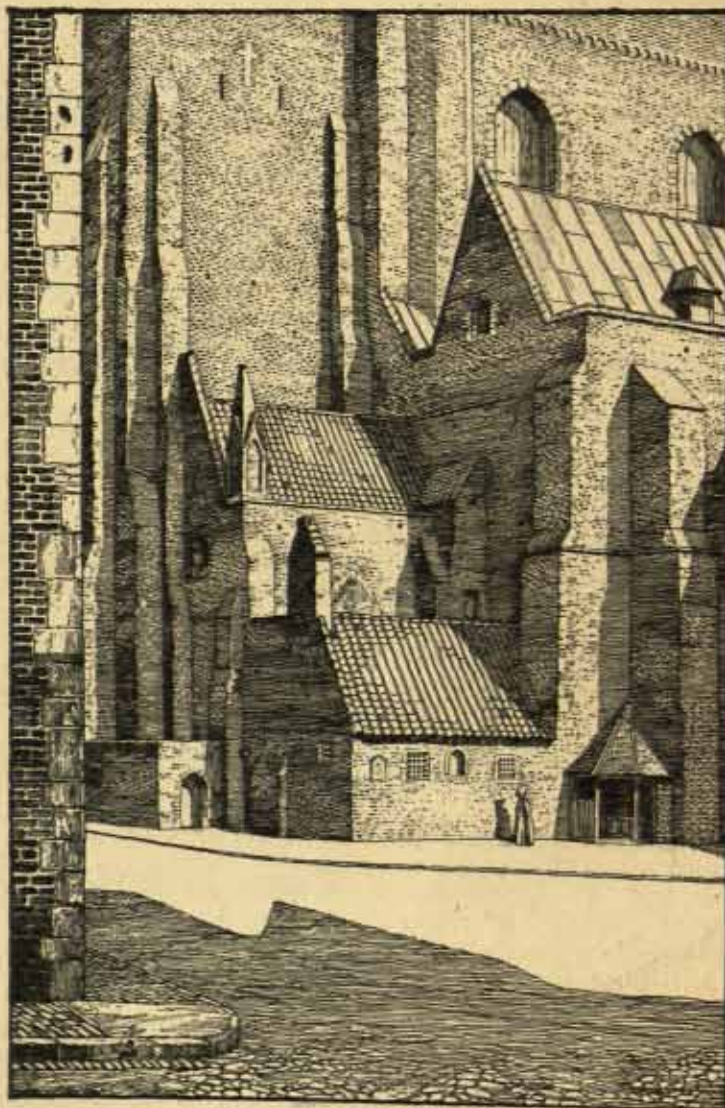
Birmingham.

J. L. BALL.

BRUGES.

Bruges: A Record and an Impression. By Mary Stratton. With 120 Illustrations by Charles Wade. 80, pp. 163. 5s. net. [B. T. Batsford, Ltd., 95 High Holborn.]

Mrs. Stratton's book on Bruges would have been welcome at any time, for it is thoroughly well written and appreciative; but its appearance now is especially opportune. For Bruges is in the thick of it,



BRUGES: OUTSIDE THE CHURCH OF ST. SAUVEUR.

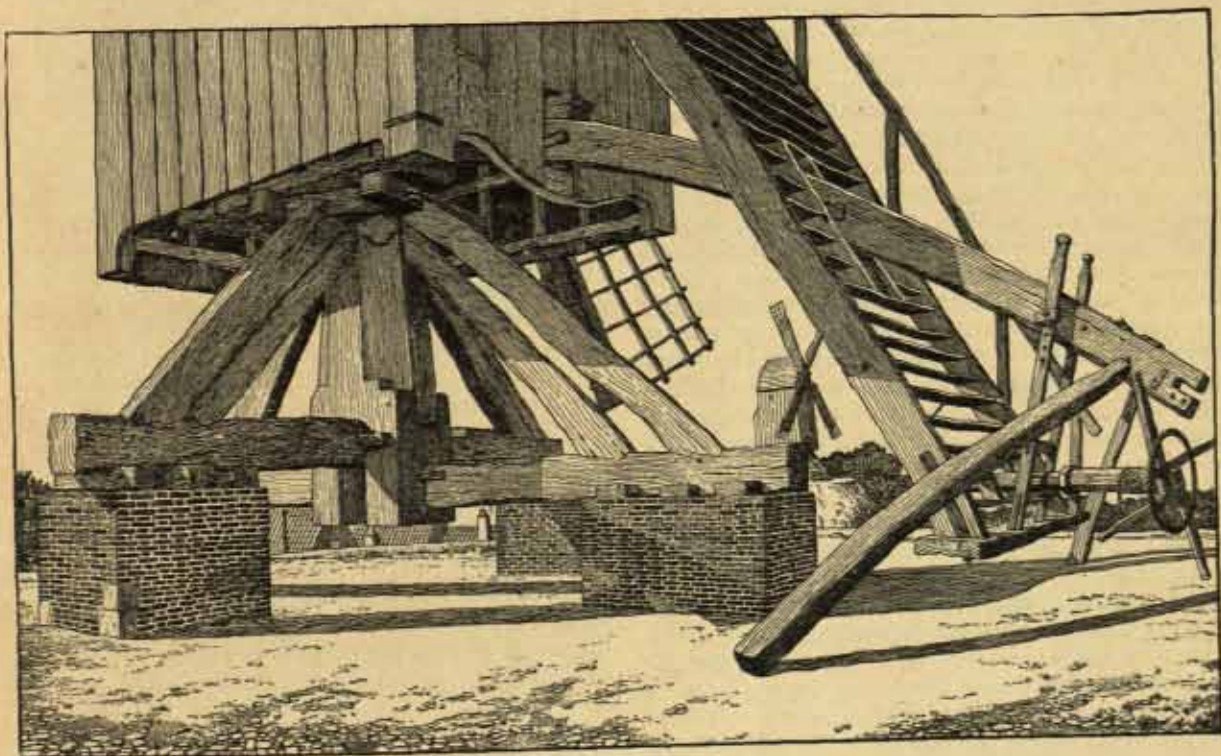
and no one knows yet to what extent it has suffered or will suffer. All parts of the town are of interest. The interest centres, it is true, in and around the Grande Place, with its top-heavy belfry, the neighbouring Hôtel de Ville, remains of the Palais du Franc, and other public buildings; but there is not a street in the town, not a corner enclosed within its windmill-topped ramparts, that does not contain houses or churches

well worthy of attention. The secluded Béguinage presents a scene that for mediæval completeness and old-world charm would be difficult to beat.

The past history and greatness of Bruges, the reasons for its decline and why so much of the city remains unaltered, its present charm and fascination, are well stated by Mrs. Stratton. She emphasises its relations with this country by mentioning that William Caxton, who printed his first book at Bruges, held office there as "Governor of the English Nation." In her very slight references to Memling (or Memline) she is disappointing. The wonderful series of pictures by

with that of the Maison des Bateliers at Ghent, or even with some of the façades at Ypres and Tournai. Possibly the inhabitants of Bruges—has Mrs. Stratton coined the word Brugeans? it does not appear right—spent their money more on interiors and fittings. History records their extravagance in dress.

Immense though the fall of Bruges has been from its former high position as one of the chief towns of the great Hanseatic League, still more lamentable has become the state of Damme, three miles away, and once the flourishing port of Bruges. When I visited it in 1882, on a board over the entrance doorway to the



BRUGES: WINDMILLS OUTSIDE THE PORTE STE. CROIX.

that artist in the Hôpital S. Jean deserve more than the bare mention of their existence that they receive.

A chapter on the façades of houses, in which Mrs. Stratton had the assistance of her husband, Mr. Arthur Stratton, brings out well their peculiarities, and shows why "Bruges being, . . . a city of narrow streets and densely packed houses, . . . the city dweller had to be content with a comparatively narrow plot of ground, which . . . presented to the street a front averaging no more than some 20 to 30 feet in width." Although the same idea of vertical brick pilaster strips dividing each front into bays and framing in square-headed mullion and transomed windows, the heads of which are filled with sunk brick tracery, runs through all, there is still considerable variety in design shown. At the same time there is no one façade that can compare

principal building in the town were the words "Hôtel de Ville et Estaminet"! Damme receives full mention from Mrs. Stratton, who says that its population, once 60,000, is barely 1,000 to-day. It still boasts a large church and some houses as good as any in Bruges itself.

The illustrations deserve a special word of praise. Mr. Charles Wade has evidently come under the influence of Memling and other masters of the Flemish school, and records his impressions of Bruges and Damme with a fidelity to detail which even they might have envied. Some of the drawings, especially the smaller architectural views, are hard, and others over-elaborate, but the latter especially have probably suffered in reproduction.

F. M. SIMPSON [F.].

PROGRESS IN PAINT MANUFACTURE.

I AM afraid that the majority of architects still look upon the subject of painting more or less in the light of a side issue, regarding the function of paint as of too little importance from a structural point of view for the question of its proper composition and use to demand serious attention.

In the brochure entitled "Notes on the Properties and Ingredients of Commercial Paints," issued by the Science Standing Committee of the Institute some three or four years ago, however, I notice that the Committee expresses the opinion that this subject is one "which, though it forms but a small part of the wide field covered by an architect's work, is of considerable importance in the light of the cost of constant repainting, coupled with the great openings for the use of inferior materials." This is a statement pregnant with practical bearing on the subject, for it cannot be too clearly or too often emphasised that in a climate such as that of Great Britain efficient painting is of vital importance to the protection and upkeep of our buildings. It forms, in fact, in most cases the only available means of protecting wood-work, metal, and even stone, from the rapid deterioration which follows exposure to the impure atmosphere of our modern towns, the effect of which has been fully explained by Sir Arthur Church and others.* From a rule-of-thumb and home-made material paint manufacture has grown into an organised industry, developed on scientific lines, for the constantly increasing demand has stimulated the chemical engineer to evolve special machinery for its efficient manufacture on a large scale, and close competition has necessitated constant chemical supervision to ensure a reputation for good quality.

But in every industry, side by side with the beneficial effect of demand and competition we have their concomitant evils: the stimulation of the imitation and the spurious product, and the tendency to pass off adulterated products under the stress of competition. "Paint specialities" by the score have flooded the market in recent years, and one can fully sympathise with the Committee in their conclusion: "The whole subject has been found to be so complex, and any unanimity of opinion so lacking, that it appears unlikely that any precise standardisation will be attainable for some time to come."

A thorough understanding of the industry, in fact, involves no mean amount of study and research, and it would be unreasonable to suggest that the architect should accept the burden of becoming an expert in the subject. I do suggest, however, that the architect would find it well worth while to be conversant with the fundamental principles governing the production of efficient paint—and to this end perhaps some notes on the present state of scientific opinion on the subject may be of interest.

Fundamentally, paint is composed of a finely divided solid portion, or pigment, and a liquid portion, or vehicle, which has the property of changing into a tough adhesive solid on exposure to the air, thus binding the particles of pigment to the surface. This change is commonly known as "drying," but is in reality a complicated chemical reaction, the control of which forms one of the most vital problems in the production of efficient paint.

The conditions which paint is called upon to fulfil in the protection and decoration of buildings are many, and a perfect paint would excel in numerous properties, which may be summarised thus:—

1. Perfect freedom of working.
2. Great "body"; that is, power of hiding the surface.
3. Power of "drying" quickly and uniformly to form a film having the characteristics—
4. Elasticity, to enable it to follow the expansion and contraction of the surface.
5. Hardness, to protect the surface from mechanical injury.
6. Impermeability to moisture and gases, to enable it to protect the painted surface from the effect of frost, corrosive agents, and so on.
7. Chemical stability and inertness, to enable it not only to resist attack by the same agencies itself, but to remain indefinitely without suffering any internal or external chemical change.

We must, of course, take it as an axiom that no paint is ideal in the sense of possessing all these properties fully developed. The problem of paint production is to strike an effective balance between these conflicting requirements.

One of the most remarkable features of modern scientific research has been the bringing into prominence of the enormous influence that can be exerted by agencies so slight as to appear at first sight insignificant. One need only call to mind as an illustration the far-reaching influence of radium, which exists in such minute quantities that the world's present supply could be held in one hand. This applies as much to the paint industry as to other branches of applied chemistry. Research has shown, for example, that the "drying" of the oil and the durability of the resultant film of paint are influenced to a remarkable degree by the presence of certain metallic salts in extremely minute quantity.

Such subtle reactions may be applied to improving the qualities and eliminating the known weaknesses of those materials which have been proved by long experience to be the most efficient, and true progress has lain rather in this direction than in the more obvious one of endeavouring to replace them by new materials possessing theoretical advantages which in general prove in practice to introduce at the same time new and unforeseen defects. Both methods have, however, been practised, and there has thus arisen in the industry two schools of thought—those who follow the principle of applying scientific research to solving the problem of increasing the efficiency of paint by

* See, for example, *The Conservation of Urban Stonework and Wall Paintings*, Royal Institution, 1907.

improving the manufacture of existing materials, and those who attempt to cut the Gordian knot by abandoning well-known materials in favour of others possessing theoretical advantages. I must frankly confess myself a believer in the former method, for the reason that one has a sound basis of accumulated experience to direct the most profitable line of inquiry, for the problem is complicated by so many factors in actual use—the influence of varying conditions of exposure, environment, &c.—that it is only by years of practical experience that the qualities and defects of any material become fully understood.

The danger of introducing new materials and rejecting old ones lies, therefore, in the fact that, whilst the new material may show some specific advantage under favourable circumstances, this may be far outweighed by defects which manifest themselves under different circumstances. An instance that immediately occurs to one in this connection is the question of abandoning the use of white lead in favour of other pigments, on account of certain technical and economic disadvantages. This pigment is one of the most valuable ingredients the paint manufacturer has at his command. It has been in use for so long, and the experience of its use is so great, that its merits and defects are well known from every point of view.

One technical problem presented by its use illustrates very well the difficulty of making progress by the method of substitution—namely, the discolouring effect of air containing sulphuretted hydrogen, owing to the gradual formation of lead sulphide. Theoretically, the substitution of white lead by oxide of zinc would obviate this, not because sulphuretted hydrogen has no action on it, as is too often incorrectly stated, but because the sulphide of zinc formed is white, and therefore the action does not become apparent by discolouration. In practice, however, it is found that, whereas the action of such impure air is merely to discolour the surface of the lead paint without impairing its durability, when zinc is substituted this difficulty is only obviated at the sacrifice of the most valuable property of the paint—its protective value; for the paint under such conditions rapidly disintegrates in a manner that appears unaccountable until we investigate more closely the chemical reactions involved, when we discover that the action does not stop with the formation of the sulphide. Oxidation ensues, with the production of sulphate of zinc, which is freely soluble in water; the paint, in consequence, becomes useless as a protection against moisture, which causes it to disintegrate rapidly by dissolving away the now soluble pigment. In the case of white lead a similar cycle of reaction takes place, with the essential difference, however, that the lead sulphate so formed is quite insoluble and only inferior to the original white in durability, so that the ultimate effect is, for all practical purposes, to restore the original condition of affairs.

It is quite conceivable, moreover, that research on the lines of improvement rather than substitution may obviate this disadvantage of discolouration in the case of white lead. It is suggestive to note in this

connection that white lead was freely used in mediæval times for tempera painting, for which purpose it was mixed with a medium consisting largely of yolk of egg.

Thus we read in the XIV. Century MS. "De arte illuminandi" (preserved in the Naples Library): "album colorem arte illuminandi unum tantum probavi esse bonum, videlicet album plumbi sive aliter cerussa," and concerning the medium with which this and other pigments were mixed, "Aque vero cum quibus ponuntur colores sunt hec, videlicet ovorum gallinarum clara et vitella eorum."

I have myself found white lead to be present in tempera paintings that I have examined, where it has remained for centuries without any trace of discoloration. Modern tempera paintings exhibit the same phenomena. I remember Sir Charles Holroyd once showing me a painting he had executed with yolk-of-egg medium which had stood untouched for twenty years without a trace of discoloration. The point is that the yolk-of-egg readily gives off sulphuretted hydrogen, an obvious fact when one remembers that this is invariably described as "smelling like rotten eggs," and one would in theory expect the white lead to be rapidly discoloured when mixed with such a medium. There is evidently something here which has arrested the normal action. It was the observation of a similar slight discrepancy between theoretical and observed results which led Sir William Ramsay to discover the element argon, which exists in the air in minute traces. And in like manner investigation of the cause of this curious discrepancy may quite reasonably be expected to result in the discovery that the addition of a mere trace of some substance would render white lead immune from discoloration, thus obviating a defect without sacrificing any of the qualities which render this pigment so indispensable to the painter.

The hygienic disadvantages of white lead, which have been strongly urged in recent times to warrant its abolition, are similarly capable of being overcome. At the present time, in fact, the risk of injury to the health of those engaged in its manufacture has been reduced to almost negligible dimensions by research into the exact cause and operation of the trouble, and there seems no reason why the risk should not be obviated without resort to the desperate expedient of abandoning the use of this material in favour of materials which possess many practical disadvantages.*

Many other materials might be referred to which illustrate in a similar manner the problems confronting the paint manufacturer. The instances I have quoted are, however, sufficient to indicate the possibilities of further progress and to emphasize the danger of attempting to replace well-tried materials of proved merit by new and little-understood products, which often fail with disastrous results under unforeseen contingencies.

NOEL HEATON.

* I have dealt with this point fully in a Paper read before the Royal Society of Arts, and reported in the *Journal* for 12 March, 1913.



9 CONDUIT STREET, LONDON, W., 7th November 1914

CHRONICLE.

The R.I.B.A. Record of Honour : Third List.

The following is the Third List of names of Fellows, Associates, Licentiates, and Students R.I.B.A. who have responded to the call of duty and are serving with H.M. Forces for the duration of the war. Previous lists will be found in the September and October issues :—

FELLOWS.

Cappon, T. M. : Recruiting Officer, Black Watch (Terr.).
 Goddard, H. L. : Major, 4th Battalion Leicestershire Regiment (Terr.).
 Harcastle, Wilfred J. : Lieut.-Col., V.D., Staff 10th Division New Army.
 Spain, Joseph : Captain, 7th Durham Light Infantry.
 Wilkie, W. F. : Lieutenant, 4th V.B. R.H.
 Wilson, Cecil : Lieut.-Col., 7th Welsh (Cyclist) (Terr.).

ASSOCIATES.

Baines, J. C. : Captain, 4th Battalion Leicestershire Regiment (Terr.).
 Beddingfield, R. W. : Captain, 4th Battalion Leicestershire Regiment (Terr.).
 Bevis, R. H. P. : Captain, Royal Engineers.
 Brown, John : Captain, Northants Territorials.
 Clouting, C. E.
 Cowper, J. B. F.
 Davis, Claude : Lieut., 2nd Birmingham Battalion Royal Warwicks.
 Hake, G. D. Gordon : King Edward's Horse.
 Hands, J. G.
 Hebblethwaite, B. R. : 2nd London Sanitary Div., R.A.M.C.
 Hendry, H. D.
 Hunter, G. E. : Captain, Northumberland Fusiliers.
 Jardine, H. S.
 Jones, G. Howard : Public Schools Battalion, Royal Fusiliers.
 Keys, P. H.
 Nimmo, W. W.
 Pearsop, H. John : United Arts Force.
 Pickmere, Travers : Universities and Public Schools Corps.
 Roche, C. S.
 Rogers, Cecil W. : Artists.
 Rushworth, T. S. : Lieutenant, 7th City of London Battalion.
 Scott, J. Maxwell.
 Sinclair, W. B.
 Tasker, A. K. : Captain, Tyne Electrical Engineers.
 Tasker, W. W. : Lieut., Northumbrian Royal Engineers.
 Thompson, W. Harding : Honourable Artillery Company.
 Truelove, J. Reginald : Lieutenant, Queen's, 24th County of London.
 Walter, R. A. : 12th Battalion Middlesex Regiment (Duke of Cambridge's Own).

Wilson, A. Needham : Captain, Territorials.
 Wilson, Geoffrey C. : Royal Garrison Artillery.
 Worthington, J. Hubert : Lieut., 31st City Battalion Manchester Regiment.

LICENTIATES.

Barnett, R. R. : Royal East Kent Yeomanry.
 Broadley, William A. : 1st Battalion Surrey (Croydon) National Reserve.
 Danby, Harold H. : Royal Engineers.
 Flower, Victor : Captain, 13th Battalion London Regiment.
 Johnston, J. W. : Royal Engineers.
 Meikle, J. A. : Universities and Public Schools Brigade (Royal Fusiliers).
 Nicholls, F. : Inns of Court, O.T.C.
 Royds, A. F.
 Saunders, J. T. : London Scottish.
 Skipwith, F. P. : Captain, 7th Battalion Royal Scots Fusiliers.
 Walker, Wm. : Lieut., Highland Cyclist Battalion (Terr.).

STUDENTS.

Barber, R. Alfred : Royal Naval Division (Engineers).
 Beaverstock, H.
 Brown, J. Boyce : Lieut., 6th Battalion Hampshire Regiment (Terr.).
 Carey, J.
 Chaundler, J. H. : Chief Petty Officer, R.N.V.R. Anti-Aircraft Corps.
 Clarke, W. L. : Artists' Rifles.
 Cooksey, H. T.
 Cruickshank, D. E. : 1st Battalion U.P.S., Royal Fusiliers.
 Donaldson, B. : Northumberland Hussars, Imperial Yeomanry.
 Durnford, W. J. : 1st City of London Sanitary Co., R.A.M.C. (Terr.).
 Elsworth, L. A. : Honourable Artillery Company.
 Fincham, E.
 Freaker, Allan L. : Artists'.
 Gostling, W. B.
 Hinton, C. A. : Lieut., 5th King's Own Royal Lancasters.
 Hunt, Norman S. : Universities and Public Schools Corps.
 Kaltenbach, A. F.
 Kruckenberg, F. L. : 1st West Riding Field Ambulance, R.A.M.C. (Terr.).
 Lyne, D. R. : R.N.V.R. Anti-Aircraft Corps.
 Mackellar, R. N. H. : 9th Highland Light Infantry.
 Maddock, R. H. : Artists'.
 Moscrop, W. N. J. : Lieut., 5th Battalion, Durham Light Infantry.
 Nightingale, F. B. : United Arts Force.
 Parkin, W. G.
 Pite, Ian Beresford : Lieutenant, Royal Engineers.
 Ratcliff, Fred : Sheffield Battalion York and Lancaster Regiment.
 Saunders, Bernard : 6th Battalion Royal Warwicks (Terr.).
 Spence, A. T.
 Symington, H. H. : 4th Battalion Leicestershire Regiment (Terr.).
 Toothill, J. C. P. : Artists' Rifles.
 Turner, T. E. : Lieut., City of London (Kensington).
 Venn, G. O. : Royal Fusiliers, Public Schools Battalion.
 White, T. F. H. : Inns of Court O.T.C.
 Whitehouse, L. : 2nd City Battalion King's Liverpool Regiment.

Members will be glad to learn that Mr. Francis Hooper [F.] has received news of his son, Lieut. Kenneth Hooper, of the East Lancashire Regiment, who was reported wounded at Cambrai and later as missing. Lieut. Hooper has now written home that he was for twelve days in the temporary hospital at Ligny, near Cambrai, that he has recovered from his wounds and is a prisoner of war at Torgau-on-Elbe.

War and the Professional Classes: Formation of a Relief Council.

Directly the war broke out the distress expected to arise therefrom among the industrial population was at once anticipated and taken in hand to be dealt with adequately by the National Relief Fund. The response to the Prince of Wales' appeal was immediate and generous, with the result that there is little fear of irremediable upheaval of conditions among the industrial classes.

This Fund, however, as everyone knows, makes grants only to the Local Distress Committees and the Soldiers' and Sailors' Families' Association. It does not, therefore, touch in any way the great distress already prevalent among the professional classes, for men and women of this class cannot appeal for help to the Local Distress Committees, who possess no adequate machinery for dealing with such cases.

Yet this class is the one hit most promptly and severely by the dislocation of business, and by the sudden, unexpected cessation of the demand for luxuries. In fact, not only are all the professions which depend upon the conditions of peace and the fluency of the market practically at a standstill, but also the creative and artistic professions, such as literature, journalism, the stage, art, &c. All these rely upon the conditions of peace or the demand for luxuries, and that demand is gone. However long the war may last, it is certain that the dislocation in the professions will continue for some years after peace has been made.

Many small but hitherto prosperous homes will be broken up through the mainstays being thrown out of work, or through the men, moved by the needs of their country, having enlisted as ordinary privates, receiving, of course, as such the ordinary pay of a private; this is naturally insufficient to keep the home together on anything like the standard of living that has hitherto been attained. In many cases also financial difficulties may arise because securities cannot be realised or loans negotiated. It is obvious, then, since there is no control organisation or general fund to meet the distress already so prevalent, that the need for such a fund is very great.

During the last few weeks, therefore, there has been in process of formation an organisation to be called "The Professional Classes War Relief Council." This Council is composed of the nominees of the majority of the principal professional institutions, such as the Architects', Surveyors', Engineers', Musicians', Authors', &c., as well as representatives of the chief societies engaged in relief work (in order to promote valuable co-operation), with the result that it is a very representative and powerful body of business men and women.

The Council does not propose to offer any form of charity in relief, as this would naturally be both impossible and undesirable, but it does propose to give certain centralised forms of assistance, which will, it is hoped, tide over the critical period of the

war, enabling people so severely hit to resume their normal status when the war is over.

The majority of the professional societies have their own benevolent funds: these are and must remain quite independent, but it will ensure the most adequate return for outlay being obtained if certain forms of assistance are centralised and made available for their use.

The chief forms of assistance arranged are in matters of Education, Training, Emigration, Maternity Aid, and Temporary Employment, all of which are worked under separate representative sub-committees of men and women whose positions and capabilities fit them especially for dealing with their special departments.

For example, the Education Committee is composed of the Presidents of the principal scholastic associations, and has as its objective the arrangement of co-operation with the proprietors and governing bodies of schools by which children whose parents, through financial stress, are unable to pay the usual school fees will be maintained at school at reduced fees assisted by a grant from the funds of the Council; thereby ensuring both the continuity of the schools, many of which would otherwise have to close down owing to the withdrawal of pupils, and also the uninterrupted education of the children, which is so vitally important to the national life.

The Training and Emigration Committee proposes chiefly to arrange free training for those professions for which it has been ascertained that openings exist either at home or in the Overseas Dominions. This will apply mainly to men and women in already overstocked professions.

Numbers of domestic and emigration colleges have offered free or greatly reduced trainings to the Council, and these scholarships are immediately available.

The Maternity Assistance Committee proposes to open a maternity nursing home for wives of professional men, staffed by voluntary doctors and midwives. A suitable building has already been generously lent for the purpose. It is also proposed to give free maternity assistance in their own homes, so long as those homes can be kept together. This Committee and staff comprise some of the most eminent men and women in the medical world.

The Temporary Employment Committee has been organised to develop opportunities for temporary employment in works of public and national utility both for men and for women.

It has also been found necessary to meet the demand for immediate relief while people are waiting to be placed in permanent work. The Women's Emergency Corps and the National Union of Women's Suffrage Societies have opened certain temporary workrooms for needlework, toy-making, &c., for professional women, which they have arranged to make available to nominees of the Council.

It will be seen how far-reaching and important the work of this Council is, for it affects not only the

conditions immediately confronting us while the war lasts, but may develop on such lines as would be of permanent value in forming a centre for all information relative to the conditions and opportunities of employment in the various professions.

It is necessary to form a central fund to carry on this great work, this fund being used to organise and maintain the various forms of assistance proposed; to help those members of professions which are not organised and have, therefore, no benevolent funds; to provide assistance for the families of professional men who have given up all to enlist for the service of their country.

All those who have this very real need at heart are earnestly invited to give practical support by sending donations to The Treasurer, Professional Classes War Relief Council, 13 and 14 Prince's Gate, S.W. Cheques to be crossed Messrs. Coutts & Co.

The objects of the Relief Council appeal in a very special manner to architects, and deserve their most generous support. Architects and surveyors are influentially represented on the Council, among them being Mr. Ernest Newton, A.R.A., President R.I.B.A., Mr. George Hubbard, Vice-President R.I.B.A., Mr. Paul Waterhouse [F.], Mr. Ian MacAlister, Secretary R.I.B.A., Mr. H. M. Fletcher [F.], Hon. Secretary A.A., Mr. Percy B. Tubbs [F.], late President of the Society of Architects, and Mr. A. Goddard, Secretary of the Surveyors' Institution.

Work in England for Belgian Refugee Craftsmen.

The Belgians are an industrious people, and to keep in enforced idleness those who have sought asylum amongst us would not be dealing kindly with them. The problem is how to pay our debt to Belgium without prejudice to the interests of our own workpeople. A movement which promises good practical results has been set on foot by the Hampshire House Refugee Housing and Workshops Committee, Hammersmith. A wood workshop for men has been started by the Committee under M. Goossens, of Liège, a cabinet-maker of great skill. It is intended to employ both British and Belgian workmen with apprentices, to follow and learn their trade under the best auspices. All the workmen will be paid at the customary trade union rates, any Belgians who are housed, fed, and clothed through the Committee being paid at a proportionate rate. Thrifty Belgians will thus be able, when the time comes, to go home with a small fund of savings for their repatriation. The Committee's aim is to create a store of well-made furniture for the new homes of a restored Belgium. Mr. Charles Spooner [F.] is acting as Honorary Director of the workshop. The Committee has also started workshops for other trades on similar lines, and is trusting to establish in Hammersmith such a centre of skilled handicrafts for both men and women as will not only have helped Belgium in her need, but will be of permanent benefit to the industrial life of our own country. Funds, of course, are needed, and the

Committee earnestly appeals for subscriptions, which should be sent to the Treasurer, Mr. Fred Rowntree, 11 Hammersmith Terrace, W. Particulars of the workshops may be obtained from the Secretary, Mr. Walter Seward, 9 Upper Mall, Hammersmith.

The A.A. War Service: Gifts in Kind wanted.

A committee has been formed by Mrs. Maurice E. Webb, in connection with the Architectural Association War Service Bureau, for the purpose of providing necessities and extra comforts for the very considerable number of men connected with the architectural and surveying professions and building trades who are serving with the Colours. The Committee now appeals for assistance in its endeavours to make as comfortable as possible the lot of those who have so splendidly responded to their country's call. Owing to the generous assistance already afforded, many parcels have been dispatched both to men actually at the front and to those in training camps and barracks, and the very kind and appreciative letters which have been received from the men confirm the Committee's opinion that the work it has undertaken is meeting a real need. The Committee especially appeals to the wives and daughters of architects and surveyors and other ladies connected with the building trades for gifts both in kind and money, in order to enable it to meet the heavy and increasing demand which is being made upon its resources. As a result of careful inquiry it has been ascertained that the articles contained in the following list are most needed: blankets, body belts, scarves, sleeping helmets, flannel shirts, socks, towels, soap, tobacco, cigarettes, games, papers, magazines. All contributions, which will be gratefully received, should be sent to Mrs. Maurice E. Webb at the Architectural Association, 18 Tufton Street, Westminster. A list of contributors will be published in the *Architectural Association Journal* from time to time.

Sinking of the "Clan Grant": Loss of the Cities and Town Planning Exhibition.

The valuable collection of maps, plans, models, etc., which made up the Cities and Town Planning Exhibition of the officials of the Outlook Tower, Edinburgh, has been lost with the steamer *Clan Grant*, which was sunk in Indian waters by the German cruiser *Emden*. By special invitation of the Governments of Bombay, Madras, and Bengal the Exhibition was invited some time ago to the capitals of these Presidencies. It was placed on board the *Clan Grant* at Liverpool about the middle of September and was proceeding to Madras. Fortunately, Professor Geddes and Mr. Alistair Geddes travelled by another boat, and have now landed safely. In connection with the Exhibition Professor Geddes was to have lectured and advised in India on various aspects of town planning and the reconstruction of Indian cities. A conservative estimate of the loss places it at two or three thousand pounds, but that does not include the labour which has been applied to it by enthusiastic workers for many years. A good

part of the collection was on view at the Exhibition of the R.I.B.A. Town Planning Conference in 1910.

Mr. H. V. Lanchester [F.] writes: "As the loss of this unique collection handicaps Professor Geddes most seriously in the important work he has undertaken, an effort is being made by those who appreciate the valuable contributions he has made to the problems of civic development to replace the salient features, and to forward, as soon as possible, a collection on a smaller scale, but representative in type of that now lying at the bottom of the Indian Ocean.

"Through the generosity of the Architects' Professional Employment Committee a staff is now engaged on preparing maps and diagrams; but the only means by which it appears possible to provide for the historic section, comprising maps, prints, and views of cities in past ages, is by a request to all possessing these to lend or give them to the collection.

"I therefore, on behalf of the Exhibition Emergency Committee, venture to appeal to your readers to co-operate by sending to me at 47 Bedford Square, W.C., whatever they may be willing to spare that falls within the following category: Plans, views, or lantern-slides illustrating—

- "1. Ancient and modern cities.
- "2. Historical buildings.
- "3. Restorations of cities or important buildings.
- "4. Geological, physical, botanical, and ethnographical maps, charts, diagrams, and pictures.
- "Large panoramic views would be especially suitable."

The A.A. Collection of Lantern Slides.

By direction of the Council some 900 lantern slides, representing many years' accumulations of illustrations of Papers read before the Institute, have been handed over as a loan to the Architectural Association. Previously the A.A. collection numbered upwards of 6,000 slides, all catalogued and classified, and available to its members and other people for hire at a small charge. The recent additions bring the number up to 7,000, and the A.A. has agreed that the whole collection shall be available for loan to members of the R.I.B.A., without charge, on application to the Council. For the future the Institute slides will be kept at Conduit Street for a year after use and then be added to the A.A. collection.

Destruction of Ancient Monuments: Sympathy with France and Belgium.

The following resolution, signed by Mr. Lionel Earle, Sir John Stirling Maxwell, and Sir E. Vincent Evans, Chairmen of the Ancient Monuments Boards of England, Scotland, and Wales respectively, has been sent to the French Ambassador and the Belgian Minister for transmission to their Governments:—

"The Ancient Monuments Boards of England, Scotland, and Wales desire to record the horror and indignation with which they have received the news of the wanton destruction by the common enemy of the famous and beautiful monuments of your country,

monuments which were justly the pride not only of their native land, but of the whole civilised world.

"Such losses are, alas! irreparable, and must ever remain a bitter memory, the record of a chapter in the annals of mankind which will brand with indelible infamy the minds which conceived and the hands which carried out so idle an outrage against civilisation.

"But although nothing can undo these excesses of a brutal and ruthless militarism, the occasion must at least evoke a demonstration of full and complete sympathy with the people on whom they have been inflicted, a people long and deservedly famous alike for the inestimable value of their historical monuments as for their deep appreciation of that value."

Garden Cities and Town Planning.

The following is a programme of lectures arranged by the Town Planning Institute for the ensuing session:—

Oct. 23. *Wide Roads for Cities.* By John A. Brodie, M.Inst.C.E.

Nov. 13. *The Industrial Village.* By Percy T. Runtun [A.].

Dec. 4. *The Ruislip-Northwood Scheme.* By E. R. Abbott and F. M. Elgood [F.].

Jan. 29, 1915. *The Urban Land Problem as it affects Town Planning.* By Professor S. D. Adashead [F.].

Feb. 19. *Economics of Town Planning in Relation to Land Development.* By George L. Pepler, F.S.I.

Mar. 12. *Some of the Larger Problems of Town Planning.* By Thomas H. Mawson [Hon. A.].

Apr. 16. *Replanning and Redevelopment in Existing Centres.* By W. T. Lancashire, M.Inst.C.E., and H. V. Lanchester [F.].

The R.I.B.A. War Relief Fund.

Messrs. Alex. Koch & Sons, of 44 Doughty Street, W.C., publishers of the well-known annual, *Academy Architecture*, announce the approaching publication of a Portfolio of Twenty Plates reproduced from drawings of Egyptian Temples and Mosques by Mr. W. J. Palmer Jones. The reproductions are by lithography, the original drawings being done on the stone by Mr. Jones himself and the printing carried out under his personal supervision. The originals, remarkably clever drawings, are in charcoal—a medium eminently suitable for the presentment of these fascinating old monuments; and the lithograph reproductions, judging by the specimens which have been sent to the Institute for inspection, are admirable. The work was put in hand some time before the war broke out, and the publishing price was originally fixed at three guineas. Messrs. Koch, however, announce that they are prepared to supply copies at the subscription price of two guineas, and they undertake to contribute half the sum received for each copy to the War Relief Fund now being raised by the R.I.B.A. Messrs. Koch desire it to be known that they are naturalised British subjects since 1891, of Swiss origin, and that their junior partner is a British-born subject.

Detroit Building Regulations.

New building regulations for the City of Detroit place the following limitations on the ratio of least

diameter to length of unbraced piers and columns: Brick or hollow tile, 1 to 10; wood, 1 to 16 and 1 to 24; cast iron, 1 to 20 and 1 to 30; steel, 1 to 44. Working loads on masonry in tons per square foot are limited as follows: Brick work in lime mortar, 7; in lime and cement mortar, 9; in lime and Portland cement mortar, 11; in Portland cement mortar, 15. For pressed brick, 20 per cent. excess of the above is allowed. For hard hollow tile with vertical cells laid in Portland cement the load is 20, and with horizontal cells, 12; for ordinary hollow tile in Portland cement mortar, 12½ for vertical cells and 7 for horizontal cells; rubble stone in lime mortar, 5; in lime and cement mortar, 6; in lime and Portland cement mortar, 7; in cement, 8; in Portland cement, 10; concrete, 8; Portland cement concrete footings, 30.

The Chadwick War Lectures.

The forthcoming Chadwick Lectures include three on "Camp, Ship, and Hospital Hygiene" by Dr. A. T. Nankivell at Bedford College, Regent's Park, on Saturdays, the 14th (when Mr. John Slater [F.] will preside), 21st, and 28th November, at 3 p.m. "Government and Military Sanitation in the Tropics" is the subject of two lectures to be delivered by Sir Ronald Ross at the London School of Economics, Clare Market, Kingsway, on Fridays, 4th and 11th December, at 8.15 p.m. On Fridays, 15th and 29th January, at 5.15 p.m., Dr. F. M. Sandwith will lecture on "War and Disease" at the Royal Society of Arts. Professor W. J. Simpson, M.D., will deliver a course of three lectures on "Naval Hygiene" at the Town Hall, Portsmouth, on Fridays, 27th November, 4th and 11th December, at 9 p.m. Admission is free to all lectures.

OBITUARY.

William Cowley Stevenson, *Licentiate*, who passed away at Seaton, South Devon, on 11th October, was the elder surviving son of the late Henry Stevenson, F.L.S., of Norwich, a local naturalist of much distinction, and the author of the *Birds of Norfolk*, a history of the local fauna of the county which, for the past fifty years, has commanded widespread attention. His great-grandfather, William Stevenson, F.S.A., was a miniature painter of some distinction, and a pupil of Sir Joshua Reynolds during his presidency of the Royal Academy. It was this Mr. Stevenson who in 1812 superintended a new edition of *The History of Ely Cathedral*, by the late Rev. James Bentham, A.M., F.S.A., Rector of Feltwell St. Nicholas, Norfolk, and Prebendary of Ely. His remains were interred in St. Stephen's Church, Norwich, beneath a mural monument, executed in statuary marble by De Carte, with a characteristic epitaph by Mr. Thomas Amyot, F.S.A. The late Mr. Stevenson was educated at Norwich Grammar School under the famous Dr. Augustus Jessopp, and

on leaving there he entered the office of Messrs. Edward Boardman & Son, of Norwich, who have carried out much ecclesiastical and other work in all parts of the country. Afterwards he became an assistant in the office of Messrs. Wylson & Long, of King William Street, Charing Cross, and whilst thus employed had a good deal to do with the construction of the Winter Gardens at Blackpool and works of a similar character with which the name of that firm has been identified for many years past. A complete breakdown in health, however, compelled him to take up his residence permanently in the country, and during the last eight or ten years he had lived at Seaton. Here he was instrumental in designing several houses on the Broadclose Estate and elsewhere in the parish, and he was also the winner of the prize design for laying out the Cliff Gardens scheme at Seaton. Mr. Stevenson made many friends in the quiet little South Devon town, and his early demise—he was only fifty—was greatly deplored by them.

F. PRIMROSE STEVENSON.

CORRESPONDENCE.

R.I.B.A.'s Council.

The Guildhall, E.C. : 24 October 1914.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—With reference to Mr. Lucas' letter in the JOURNAL of the 17th inst., I have already repudiated the quotation of Mr. Watson that the Edinburgh Association and the Hampshire Society are composed "mainly of people who had merely an interest in architecture." It is impossible to argue with men who do not deal with the words one uses but state they "imply" or "suggest" or "infer" or "insinuate" something; they place their own interpretation on the words used and disagree with that interpretation. Whether the bulk of the members of the Hampshire and Isle of Wight Society are, or are not, architects has very little interest for me. I dealt with the qualifications for membership as stated in our KALENDAR. I said members of that Society "are not necessarily architects." I stated that fact and quoted every word in the KALENDAR that deals with the subject; the other words quoted by Mr. Lucas refer to Architects and Hon. Members, and have nothing to do with the point I brought forward.

I consider the proposals of the late Council unjust, because if a By-law were passed to give effect to them it would provide the machinery for representation mentioned below, and render possible what, to my mind, would be an intolerable state of affairs, for I believe as a fundamental principle the Council of any institute should be composed of men representing in just proportion the different classes of persons directly connected with that institute, and I do not think the R.I.B.A. would sanction the following:—

(a) An Allied Society of only 50 members, only

one being a Fellow of the R.I.B.A., the other 49 being men outside our body, the Society contributing nothing to our funds—indeed it would cost us £1 ls. per annum. This Society to be entitled to one seat on our Council. But even if all the 50 men were our members, they should not have this enormous *extra* representation over their brother members (see c).

(b) The Institute invited architects to become Licentiates, it set up a test and enrolled over 2,000 men. According to our balance sheet in the JOURNAL of 9th May, their subscriptions amounted to no less than £2,097 18s. These men would be allowed no representation.

(c) In June last we had 1,705 Associates contributing an annual income of over £3,580 to our funds. In addition we received examination fees during the year amounting to £1,633 16s., almost entirely from Associates (see JOURNAL for exact details). Under the scheme the Associates were to have a representation of only 1 in 170. Estimating the increase in our Associates at 100 per annum, the representation next year would be 1 in 180, the following year 1 in 190 and so on. According to the scheme, the Allied Societies could increase indefinitely and their representatives accordingly, but the proportionate representation of our own Associates would decrease automatically as their numbers increased.

Surely even the Hon. Secretary of an Allied Society must see that such a scheme is illogical and "unjust," and I am sure we shall never pass a By-law to sanction it.

Now, just one word to Mr. A. F. Watson. He gave in inverted commas an actual quotation (see lines 5 and 6, first column, page 601 of the JOURNAL of 25th July, 1914). He attributed that quotation to me. I denied it in the JOURNAL of 29th August, and naturally expected the next appearance of Mr. Watson in print would have been as an apologist; consequently I was extremely surprised to see his letter in the JOURNAL of 17th October. He asks members to draw their own conclusions. No doubt they will.

Yours obediently,

SYDNEY PERKS.

P.S.—If Mr. Watson can verify his ridiculous quotation I will send £5 5s. to the Architects' Benevolent Fund.

Professional Classes War Relief: Maternity Nursing Home.

13 & 14 Prince's Gate, S.W.: 3rd November 1914.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—May I solicit the hospitality of your columns to make known the requirements of the Maternity Nursing Home which is being started by the Professional Classes War Relief Council?

Mr. J. Pierpont Morgan has most generously lent us 13 and 14 Prince's Gate for the Nursing Home for the period of the war, and now we have to furnish it. Many people who are not in a position to give money may be able to give or lend some of the things that go

to the furnishing of a house, such as furniture of all sorts, house and table linen, blankets, cutlery, plate, screens; also bassinets and baby clothes.

Would those kindly offering help write first to Mrs. Hills, 32 Prince's Gardens, S.W., stating what they are prepared to give and what to lend? On acceptance of their offers they will be asked to send the articles direct to 13 Prince's Gate, S.W., clearly marked in the case of articles on loan. Crockery and glass we can only accept as a gift, as we cannot insure against breakage.

All furniture will be insured against fire.—Yours faithfully,

JULIET HILLS.

THE EXAMINATIONS.

New Scheme.

The following modifications in the scheme of Examinations will come into effect after July 1915:—

PRELIMINARY EXAMINATION.

The Examination in the following subjects will be discontinued:—

1. Short English Composition.
2. Writing from Dictation.
3. Arithmetic, Algebra, and Elements of Plain Geometry.
4. Geography and History.
5. Latin, Italian, French, or German (one language only).

8. Elementary Mechanics and Physics; but every candidate for registration as Probationer must satisfy the Board that he has attained a sufficient standard of general education.

The Examinations set out in the KALENDAR will be regarded as indicating the required standard.

Examination in Subject No. 6 (Geometrical or Perspective Drawing) and Subject No. 7 (Freehand Drawing) will be retained as at present.

The admission fee will be £2 2s. as at present, but relegated candidates will be required to pay a fee of £1 ls. for each subsequent attempt for all Examinations after that of June 1915.

INTERMEDIATE EXAMINATION.

The admission fee for Examinations subsequent to that of June 1915 will be £6 6s., and relegated candidates will be required to pay a fee of £3 3s. for each subsequent attempt.

FINAL EXAMINATION.

The admission fee for Examinations subsequent to that of July 1915 will be £6 6s., and relegated candidates will be required to pay a fee of £3 3s. for each subsequent attempt.

SPECIAL AND COLONIAL EXAMINATIONS.

The admission fee for Examinations subsequent to that of July 1915 will be £10 10s., and relegated

candidates will be required to pay a fee of £5 5s. for each subsequent attempt.

Notice to Candidates who have joined the Colours.

The Council of the R.I.B.A. wish it to be known that generally every consideration possible will be shown to candidates who have joined the Colours, and they will be conceded the following specific privileges:—

Candidates for the Intermediate Examination whose Testimonies of Study are approved to be registered as Students.

Candidates for the Final Examination who have had one or more Problems in Design approved may be exempted from submitting others.

To Foreign Students in English Architectural Schools.

The Council have decided to allow candidates other than British subjects, who are desirous of possessing evidence that they have obtained the status though not the rank of an Associate of the Royal Institute, to sit for the Final Examination, and in the event of their passing to furnish them with a certificate to that effect.

The R.I.B.A. Prizes and Studentships 1915.

At a meeting of the Council on Monday, 19th October 1914, it was resolved to postpone the Prizes and Studentships Competitions for 1915 until the year 1916. Further, that those candidates who, under the age limit, are eligible in 1915 shall be considered eligible for the Prizes and Studentships Competitions for the year 1916.

COMPETITIONS.

Tuberculosis Hospital, Southend-on-Sea.

Members and Licentiatees are advised that the conditions of the above competition are not in accordance with the Institute Regulations for Architectural Competitions, and the Competitions Committee are in correspondence with the promoters with a view to their amendment.

By order of the Council.

IAN MACALISTER, *Secretary.*

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1914-15, held Monday, 2nd November 1914, at 8 p.m.—Present: Mr. Ernest Newton, A.R.A., *President*, in the Chair; 23 Fellows (including 10 members of the Council), 17 Associates (including 2 members of the Council), 5 Licentiatees, and a few visitors—the Minutes of the Meeting held 22nd June 1914, were taken as read and signed as correct.

The Hon. Secretary announced the decease of the following members since the last meeting in June, viz.: The Earl of Wenysse and March, *Hon. Associate*, elected 1878; Frederick Dare Clapham, elected *Associate* 1901, *Fellow* 1909; John Brooke, elected *Associate* 1881, *Fellow* 1908, served for two years on the Council of the Institute as representative of the Manchester Society of Architects; James Herbert Stones, *Fellow*, elected 1889; Arthur Charles Bulmer Booth, *Associate*,

elected 1881; James Lindsay, *Associate*, elected 1881; and William Bell, Godfrey Colles, Thomas Sinclair, William Cowley Stevenson, *Licentiatees*. Upon the motion of the Hon. Secretary it was resolved that the regrets of the Institute for the loss it had sustained by the decease of these members be entered on the Minutes of the Meeting and that a vote of condolence be passed to their near relatives.

The following gentlemen attending for the first time since their election were formally admitted by the President, viz.: Basil Charlton Deacon, *Fellow*; Harry Beckett Swift Gibbs, *Associate*; and Charles William Calcott, *Licentiate*.

The Secretary announced that the following candidates, being found eligible under the Charter and By-laws, had been nominated for election in the various classes: As FELLOWS (15): J. Stacey Davis [A. 1865], Plymouth; John Malcolm Dossor [A. 1896], Hull; Gilbert Wilson Fraser [A. 1897], Liverpool; Charles Matthew Ellison Hadfield [A. 1896], Sheffield; Charles Kempton, Assoc. M.Inst.C.E. [A. 1894], Leicester; Harold Clapham Lander [A. 1894]; Hurley Robinson [A. 1907], Birmingham; Cecil Alexander Sharp [A. 1895]; Austin Woodson [A. 1906], Ceylon. Also the following Licentiatees, who have passed the Examination qualifying for candidature as Fellows: John Alexander Ogg Allan [Godwin Bursar 1909, *Inst. Medallist (Essays)* 1910], Aberdeen; Ernest Chawner Bewlay, Birmingham; Charles William Bowles; Stanford Morton Brooks; Martin Thomas Ernest Jackson; James Cumming Wynnes, Edinburgh. As ASSOCIATES (41): Richard Anderton, Preston; Richard Alfred Barber; Herbert Phillips Bryant, Southampton; Andrew Stuart Burnett, Southampton; George Wilfred Callender; Charles Henry Calvert, Nottingham; Walter Llewellyn Clark; Harold Thoresby Cooksey; Colin Addison Dickeson, New Zealand; Edward Harold Montague Ebbs; Joseph Charles Fowell; William Hubert Godwin, Bewdley; Douglas Morley Griffin, Liverpool; William Holgate Harrison, Whalley; Frank Hearne, Oldham; James Hembrow; Ernest James Hickman, Birmingham; Percy Howard, Manchester; Basil Hughes, P.A.S.I.; William John Isaac, York; Eric Rawlstone Jarrett; Bernard Jessop, Nottingham; Albert Frederick Kaltenbach; Frederick Lawrence Kruckenberg, Leeds; Godfrey Horton Ledger; William Leonard Boghurst Leech; Ebenezer James Maorae, *Licentiate*, Edinburgh; Stanley Russell Miller; Abdulla Bhanji Peermahomed; Thomas Luff Perkins, Assoc. M.Inst.C.E., Hong Kong; Richard Manning Haig Philp; Geoffrey William Ridley, East Grinstead; Cedric Gurney Ripley, Ipswich; Horace Edwin Rolley; Arnold Silcock, Bath; Charles Ernest Stafford, Derby; Gerald Stanley, Trowbridge; Herbert Samuel Taylor; Gilbert George Lee Tyte; Harold Gerard Waddington, Blackpool; Arthur Jackson Wood, Leicester. As HON. ASSOCIATE: Sir Laurence Gomme, J.P., F.S.A.

The President, having briefly addressed the meeting, moved the following Resolution: "That messages be transmitted to the Governments of France and Belgium expressing on behalf of the members of the Royal Institute of British Architects their profound sympathy with the peoples of those countries in the terrible losses which they have suffered by the destruction of so many of their most famous and beautiful buildings and monuments."

The resolution, having been seconded by Mr. Reginald Blomfield, was carried unanimously.

The proceedings then closed, and the Meeting separated at 8.30 p.m.

Books received.

- The English Parish Church. An Account of the Chief Building Types and of their Materials during Nine Centuries. By J. Charles Cox, LL.D., F.S.A. 8s. Lond. 1914. [B. T. Batsford, Ltd., 94 High Holborn.]
Ye Sundry Books. By T. Geoffrey W. Henslow, M.A. La. 8s. Lond. 1914. 10s. 6d. net. [Edward Arnold.]
Bruges: A Record and an Impression. By Mary Stratton. Illustrated by Charles Wade. 8s. Lond. 1914. 5s. net. [B. T. Batsford, Ltd., 94 High Holborn.]
The Architecture of Humanism: A Study in the History of Taste. By Geoffrey Scott. 8s. Lond. 1914. 7s. 6d. net. [Constable & Co., Ltd.]



MAIN-ENTRANCE TO THE MUSEUM OF THE BROOKLYN INSTITUTE OF ARTS AND SCIENCES. (McKim, Mead & White, Architects.)

AMERICAN MUSEUM BUILDINGS: A REPLY TO MR. BREWER.

By FREDERIC A. LUCAS, Director of the American Museum of Natural History.

THE Editor has kindly allowed me to discuss some points raised by Mr. Brewer in his paper on American Museums,* and as it has fallen to me to administer two of the institutions of which he speaks, while I am fairly well acquainted with others, it may be that I see them in a somewhat different light from Mr. Brewer. I trust I may be able to show that our shortcomings are not so great as he thinks, and that there are reasons for them other than he supposes; certainly some of his criticisms are made with an imperfect knowledge of the facts. Furthermore, Mr. Brewer's criticisms are almost wholly from the viewpoint of an artist and architect, not from that of the curator of a natural history museum. And, viewing matters from a different standpoint from him, I cannot help feeling that some of our sins of omission and commission are more largely due to the architect than he is willing to admit. I regret the liberal but

unavoidable use of the first person in this paper, but, unfortunately, many of Mr. Brewer's criticisms were aimed at things for which it might seem to many that I was responsible.

It is flattering to find that Mr. Brewer was disappointed because Americans had failed to revolutionise the character of museum buildings, but some of the reasons for this failure have been pointed out by Mr. Brewer himself, while other reasons lie far below the surface and are probably appreciated only by those whose acquaintance with museums is of long standing.

Not only are architects a somewhat conservative race, but experiments on a large scale in new types of building are costly, and an architect may well hesitate before involving himself and his clients in a failure the cost of which may run into hundreds of thousands of pounds. Then, too, there are building committees and boards of trustees to be dealt with,

* JOURNAL R.I.B.A., 10 Apr. 1913.

and these, as a rule, feel that "'tis better to endure the evils we have than fly to others that we know not of." And, judging by some experiments that have been tried and serve as examples to be shunned rather than followed, it is just as well that architects are conservative.

Many of the matters of which Mr. Brewer complains are due to the effort to put new wine into old bottles, to adapt the needs of to-day to the plans of forty years ago, and, as the old bottles sometimes burst, so the old plans prove defective. For it is to be borne in mind that what one may term the Museum movement dates only from the late 'sixties, and that at this period, when the British Museum and the American Museum of Natural History were designed, there was nothing in Europe to serve as a model; in many, or most, instances collections were housed in existing buildings modified for their new purposes. Since then such changes have taken place in the aims and objects of museums and in the character of their collections that buildings designed twenty-five years or more ago are utterly inadequate for present needs and their occupants are striving desperately to adapt them to their new uses. As many of our recent museums, both large and small, are based, if not on old plans, at least on old conceptions of museums, these too prove as unsatisfactory as their prototypes.

Probably few museums have been studied so much as the American Museum of Natural History and the United States National Museum, and many of their features have been embodied in other institutions. The plan of the Brooklyn Museum, for example, is largely a modification of that of the old United States National Museum, and while this latter building is of the "car barn" type of architecture and extremely ugly inside and out, the problems of having all exhibits on one floor and all halls well lighted have never been more successfully solved. It was also for a museum of its day (1876) and ideas a success so far as offices and study rooms were concerned, and was an excellent solution of the demand made by Congress of obtaining the most room for the least money.

Chief among the changes referred to is the great increase in the reserve, or study collections. Formerly, if a museum possessed, for example, a dozen birds of a given species, it was deemed ample; now large series are demanded from various parts of the region inhabited by that species, so that it is a conservative statement to say that a hundred specimens are now wanted where one was called for a comparatively few years ago. Not only is there a demand for more specimens, but the number of known species has increased. In 1885 only 363 species of land mammals had been recorded from North America, by 1900 the number had grown to 1,450, and in the succeeding two years no fewer than 300 additional forms were described.

Turning to fossil vertebrates, it is to be noted that whereas formerly only such specimens were collected as could be readily handled and carried in a wagon,

rowadays entire skeletons, with their including rock, are gathered, and from ten to twenty-five tons of material is an ordinary shipment of one collector for a season's work.

Coincident with this has come the need of room not only for the display but for the storage, preparation, and study of this wealth of material, with the result that institutions like the British Museum and the American Museum of Natural History, designed in the late 'sixties, find the original lines on which they were planned quite insufficient for present needs. The new United States National Museum is the one large institution that has been constructed recently enough to have availed itself of dearly bought knowledge, and this is, so far as I am aware, the foremost museum building in the world as regards offices, laboratories, and storerooms.

As with study collections, so with the exhibition series—all has changed. The original idea of museums was preservation, display being incidental, and at first most mistakenly considered as a mode of preservation. Hence exhibition was originally confined to single specimens arrayed in serried ranks wherein quantity, rather than quality, was considered. Now the exhibits of an up-to-date museum—so far as animals are concerned—consist largely of groups of animals shown amid their natural surroundings. The number of specimens displayed is much smaller than of yore, but they require vastly more space and entirely different conditions of display.

Now, right here is where we museum men feel—*pœne* Mr. Brewer—that the architect has not kept up with the times. It is, or should be, the profession of the architect to design buildings adapted to the purposes for which they are to be used, to familiarise himself with the needs of those buildings and adapt his methods of heating and lighting to them, to plan the building from the inside rather than from the outside. Here Messrs. Smith and Brewer have the pleasing consciousness of having done their duty, but too often the appearance of the edifice is considered first.

Trustees naturally rely upon the architect, and he is too prone to consider the museum man as a cranky individual whose ideas if carried out would injure the appearance of his building. The Curator calls for all the wall space that is to be had, asking that the windows be high and the radiators or other heating apparatus removed from the walls. The architect protests that these things cannot be done without ruining the appearance of his building; the trustees and building committee accept the architect's dictum, and the Curator gets the blame. As an illustration of this I would point, with apologies to Mr. Rathbun, to the United States National Museum, agreeing with Mr. Brewer that the exhibition halls of the new United States National Museum are distinctly bad; the windows being entirely too low and too large—twice as large as necessary—while the radiators take up most valuable space. Further, the fact that there

are no boundaries to the halls is most unfortunate and unpleasant.

Since Mr. Brewer complains so much of over-lighting, let me say here that during my first year at the Brooklyn Museum I caused all the windows in the south front to be sandblasted, and that during my first year in the American Museum of Natural History I had a sandblast apparatus purchased and have begun the work of converting the windows into frosted glass. It may be added that I have not yet persuaded our building committee to have the windows on the street side of the proposed new wing of ground glass, as they are fearful lest this injure the appearance of the building.

Still another feature of modern museum methods that calls for space is the fact that it has become generally recognised that the construction of cases and pedestals, alterations to the building, and similar mechanical work can be carried on much more economically, efficiently, and, above all, more conveniently by museum employees than by outside workmen. All this, to say nothing of a printing office, demands room for men, machinery and material. The carpenter's shop alone of the American Museum of Natural History is 40 feet by 130 feet and contains nine large pieces of machinery, while so young an institution as the Brooklyn Museum finds itself cramped in a room 35 feet by 100 feet. Here, the space assigned for workrooms in the National Museum of Wales would be considered too small for a museum of that size. Also, it falls in the portion of the building that will be erected last. In this connection it may be remarked that the most extraordinary short-coming of the Brooklyn Museum, the failure to provide for its occupancy and use during erection, Mr. Brewer has failed to notice. There is in the south front, over 500 feet long, no provision for temporary offices and workrooms, and this oversight of the building committee and the architects the Director had to meet as best he could and in the face of some opposition. This accounts for the presence of an elaborate hard pine fish-tail floor in the carpenter's shop.

So much for general considerations. Turning to details, I would first suggest that Mr. Brewer, like many another critic, views his subject from the outside and often fails to realise that it is not a question of doing as one would like, but doing as one can under existing conditions.

Failure to use the main entrance to the Brooklyn Museum is partly due to humanitarian considerations and partly to the fact that as an entrance it is practically unusable. The question of exhibition space has nothing whatever to do with it. To reach the main doorway involves a climb of forty-six steps, a task so laborious that the trustees humanely decided, save on special occasions, to use the basement entrance which opens on the first platform at the top of twenty-three steps. But this is not all: the main door opens, not into a vestibule, but into an exhibition hall, 90 feet by 90 feet, running up two

stories, the effect being similar to that found in a certain class of small tenement common in the United States where the front door opens directly into the parlour. In the case of the Museum, not only is there no vestibule, and the doorway faces the north, with consequent draughts, but there is no provision for receiving the visitor, no checking booth, no telephone, no attendants' room, and the nearest office is 200 feet away, down a flight of stairs! To put up structures for these various purposes would be to give to this hall the appearance of the concourse of a railway station. Small wonder that those immediately concerned should be willing to sacrifice dignity to comfort and utility, keeping the main entrance for appearances and the basement side entrance for use, save on days when the attendance is large.

Precisely similar reasons account for the non-use of the present main entrance of the American Museum of Natural History. And it seems to me—not being of the brotherhood of architects—that in this, as in the preceding instance, the architects are at fault and that they should have carefully considered the needs of an entrance before its appearance. As an architectural feature the entrance to the Brooklyn Museum with its approach, which was the last large work designed by Stanford White, is a success, and it is to be regretted that Mr. Brewer chose to reproduce the architect's drawing instead of the façade as it actually exists. Here, by the way, the Science Director was successful in having the space below the steps, originally designed to be filled with earth, utilised for a storeroom 90 feet by 90 feet.

In the case of the American Museum of Natural History, fortunately it will be possible at some time in the dim future to remedy the existing order of things and to provide entrances on the east and west that will combine beauty with utility. The present architects, Messrs. Trowbridge & Livingston, to whom the criticisms of this article do not apply, are most heartily in accord with the Museum officers, and, though badly handicapped by what is already constructed, have designed additions that are in every way vast improvements over existing conditions. Incidentally it may be noted here that since the visit of Mr. Brewer the basement vestibule and foyer have, under the supervision of these architects, been greatly improved, the lighting completely changed, and the disfiguring astronomical exhibit, which bore an unfortunate resemblance to the cash conveyers of a department store, removed, all of which adds greatly to the dignity of Memorial Hall—as the Foyer is termed. The busts, by the way, are not those of founders, but of "Pioneers of American Science."

A word or two as to the size of museums, more especially as to the size of the exhibition portion. Here it would probably be difficult, if not impossible, to get an agreement between museum directors and between directors, visitors, and trustees. Then, too, much depends on the purposes of the museum. Mr.

Brewer and Dr. Hoyle seem to think the American Museum as it is provides a sufficiency of exhibition room, a conclusion from which everyone here, including myself, would most emphatically dissent, even though from my personal standpoint I feel that the present exhibits are in many cases too large, particularly in ethnology, conchology, and mineralogy. Here it is very evident that neither Mr. Brewer nor Dr. Hoyle has had to deal with Curators, who, be they never so pleasant, may differ very decidedly from the Director, and largely because they are courteous—and one does not like to be disagreeable in the family circle—carry out schemes of installation

collections of all kinds under one roof, or at least in one locality. It is confusing and inconvenient to be obliged to go to one place for ethnology, another for geology, and still another for zoology.† The visitor is not obliged to visit the entire museum at one time, and, as a matter of fact, rarely does so.

What the writer does look forward to is the establishment of small branch museums, like branch libraries, under one administration, for exhibits only, with the study collections all in one place.

When it is a question of having one large building or a number of smaller structures, when we are called upon to decide whether we would prefer to travel



FOYER, MEMORIAL HALL, OF THE AMERICAN MUSEUM OF NATURAL HISTORY, showing the brilliant but soft illumination. Taken during the Flower Show.

that may seem to the Director, as well as to the visitor, distinctly bad.* Neither do they seem to consider that it is a question of dealing with existing conditions of long standing.

It is a distinct advantage to the public to have

* The Director has the option of making himself cordially disliked by his colleagues, and possibly Trustees, or of endorsing many things of which he does not approve. Here is a concrete example of the difficulties that may beset a Director: I find on exhibition at least three times as many shells as I personally think should be displayed, largely installed in what I consider the very worst cases that could possibly be devised for the purpose. To reinstall this collection as I think should be done would involve the rejection of something like £1,500 worth of cases and the construction of £1,500 worth of new cases. It is not an easy matter to get money, and I should be pleased to learn what, under the circumstances, my critics would do. Will the City Fathers say, "Certainly, throw away the cases you don't like and get others that you do"? Am I sure that my own ideas are better than those of my predecessor, and what will be the views of my successor?

In the *Modern Principles of Museum Administration* it is written, "The Director has no rights, but he is allowed certain privileges, and the Curators will see that these are not abused."

two miles in one museum or an additional two miles in going from one institution to another with the attendant loss of time, when the comparative cost of erecting and administering one building or three is taken into consideration, the verdict is overwhelmingly in favour of the single large institution.

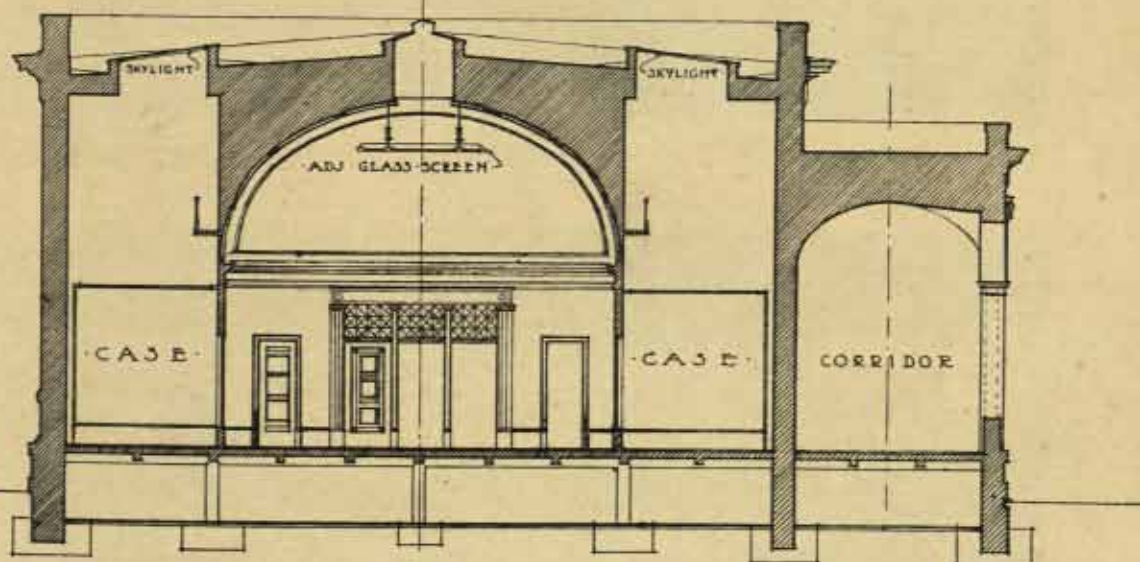
Not to be too personal in my remarks, are not Mr. Brewer and Dr. Hoyle influenced by the fact that they are mentally contrasting the National Museum of Wales, a museum of limited purposes, in a small city, with a museum world-wide in its scope, within half-an-hour's ride of 5,000,000 people? For example, on the plans of the National Museum of Wales I see room for but one whale, unless a second is placed in the geological hall; the rooms for history

† The transference of the Museum of Practical Geology from Jermyn Street to the British Museum is a good illustration of the policy of concentration.

and antiquities are large enough for Wales, but entirely too small for the ethnography of North America, to say nothing of other parts of the world. And what about the exhibition of dinosaurs, cunning little creatures occupying as much floor space as a small cottage? The display of these is not necessary in Cardiff, but every visitor to American museums of any repute expects to see them; and in the American Museum of Natural History two halls will practically be devoted to them. Judging from experience in America, the workshops are not allowed half enough space, the doorway leading into the halls of sculpture and of zoology is too narrow, and the stackroom is

facts, and a hall from 50 to 60 feet in width, with windows from 8 to 12 feet above the floor, permits cases to be arranged in two series of alcoves with space for groups or large objects down the centre of the hall. Windows well above the floor allow the wall space under them to be used for cases, while with ground glass there are no bad effects from cross lighting, and the cases on either side are illuminated. Side lighting may be ideal, but, since the window side cannot be used, calls for exactly twice the linear space of a cross-lit hall. If architects *will* carry the windows below the tops of the cases, and particularly if there is clear glass in these windows, they at least

· CALIFORNIA · ACADEMY · OF · SCIENCES ·
· SAN · FRANCISCO · CALIFORNIA ·



· TYPICAL SECTION THRO ·
· MAIN EXHIBITION ROOM ·

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· SAN FRANCISCO · CALIF ·

SCALE 10 FEET

inadequate. As a slight matter of detail, the printing room is placed just as far as possible from the Director's office, when it should be near by. As there is no engine room on the plan, it would seem that the Museum will depend on outside service for light and power, so that this need not be considered.

Turning from the question of museum buildings to that of the size of exhibition halls, it should be said that much depends on what class of specimens is to be displayed in that hall: whether they are objects of art or of natural history. While 30 to 35 feet may be sufficient for an art gallery, it is utterly inadequate for a gallery of natural history, as I had ample opportunity to learn during eight years at Brooklyn.

Natural history calls for a certain amount of system, a necessary sequence in the presentation of

should not cast reflections, or complain of those that are cast.

I am inclined to agree with Dr. W. D. Matthew in believing that the museum of the future will rely entirely upon artificial illumination, and that the gain in wall space, owing to the abolition of windows, will pay for the cost of operating the lighting plant.

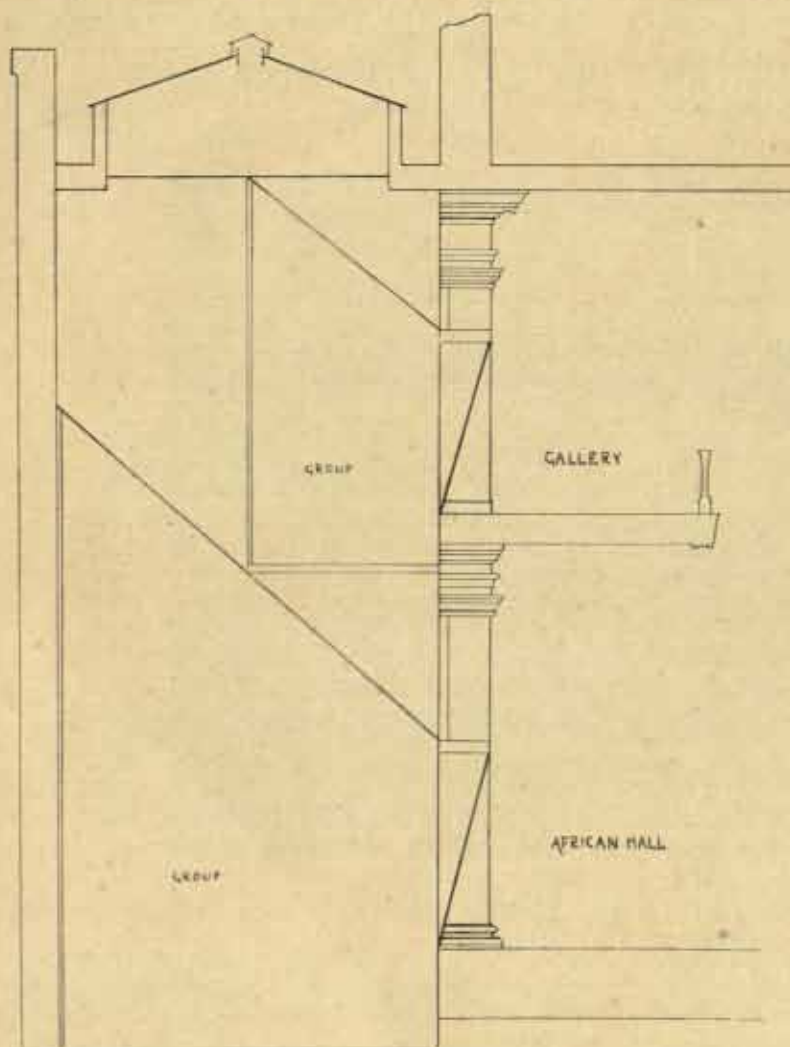
The plans for the natural history gallery of the National Museum of Wales are admirable, but they contemplate using only one side of the hall, and I know from actual trial that a hall 35 feet by 110 feet is entirely too small to contain a comparatively small representation of vertebrates, and a hall 50 feet by 50 feet too small for the display of the zoology of so limited an area as Long Island, New York.

In regard to the Carnegie Institute, Pittsburgh,

has not Mr. Brewer been a little severe in his strictures and not given due consideration to the conditions under which it was constructed, or rather reconstructed? Originally built for a library and concert hall, the Museum was included as an afterthought. A few years of use showed that the building was entirely too small for its varied purposes, and it was

Institute, despite its architectural and æsthetic drawbacks, most convenient and useful. The man who consults the library can drop into the science museum; the young man who, with "his best girl," is going to attend a concert can pay a visit to the picture gallery.

Mr. Brewer expresses surprise that the arrangement and lighting of the bird groups in the American Museum of Natural History have not been adopted elsewhere, or in other departments of the Museum. The reply to this is that, in the first place, it is not always practicable to adopt this plan of lighting, and, in the second place, that it has been more carefully considered and more frequently adopted than he imagines. This mode of display necessitates that the observer be in a darkened hall—a condition that cannot always be met. The other alternative is to build a special room, as has been done in the American Museum of Natural History, for the groups of reptiles and deep-sea fishes, though our friends the architects will doubtless criticise us for so doing, since it destroys the original plan of this hall. The problem has been under consideration for at least fifteen years, and some of the plans have been carried into effect, while others will be in museums now under consideration or construction. When the plans for the Field Museum of Natural History were begun in 1897 Mr. Carl E. Akeley planned, among other halls, one for the display of groups of North American mammals, lighted after the general method of the bird groups in the American Museum of Natural History. While this was abandoned in the plan finally adopted, Mr. Akeley's ideas have been taken up by others, while somewhat similar plans have been independently



CROSS SECTION THROUGH PROPOSED AFRICAN HALL, OF THE AMERICAN MUSEUM OF NATURAL HISTORY, AS PLANNED BY MR. AKELEY.

vastly increased in size, the original plans being swept aside.

No doubt for some reasons it would be better to have separate buildings for the various branches of science and art comprised in this department store of culture, but, as just noted, the cost of land alone for these separate buildings would be enormous, and the cost of their separate administration equally enormous. And as we find department stores most convenient for public use, and most economical in their administration, so the public finds the Carnegie

evolved and carried out in institutions out of the beaten path.

At the present writing, plans for the Museum of the California Academy of Sciences are under consideration which include a large hall, with surrounding gallery, for groups of mammals, the hall itself to be dark and the groups illuminated from above. By the courtesy of the architect, Lewis P. Hobart, who has kindly sent me detailed drawings, I am able to show a cross section of the main hall.

In the recent addition to the Public Museum of

Milwaukee large groups of mammals, illuminated by concealed electric lights, are shown on either side of a

side of this are arranged the remainder of the mammal collection illuminated by side light from the windows.



GENERAL VIEW OF THE PROPOSED AFRICAN HALL, AMERICAN MUSEUM OF NATURAL HISTORY.
From the Model by Carl E. Akeley.



A CORNER OF THE PROPOSED AFRICAN HALL, AMERICAN MUSEUM OF NATURAL HISTORY, showing the arrangement of the groups and bas-reliefs. The group in the corner extends through the gallery to the ceiling.
From the Model by Carl E. Akeley.

corridor down the centre of the hall. This closed corridor, whose walls reach to the ceiling, occupies a little more than one-third the width of the hall, and on each

This arrangement, which is that planned for the oceanographic hall of the American Museum of Natural History, seems to the writer the best possible,

utilising a wide hall to the greatest advantage and showing the specimens and groups under the most favourable conditions of light. Unfortunately, as just noted, it is not always possible to adopt this method; still less is it possible to adapt an old hall to these conditions on account of the great cost of so doing, since it would be necessary to discard all the cases and replace them with new. But for this, the writer would make over the Hall of North American Mammals; as it is, he can only congratulate his friend Mr. Ward upon the successful accomplishment of this mode of installation.

Of still greater interest to the writer is the proposed Hall of African Mammals for the American Museum of Natural History, plans for which are being prepared by Mr. Akeley in conjunction with Messrs. Trowbridge and Livingston. As designed by Mr. Akeley and shown in the cross section and in the scale model, the plan contemplates a hall about 80 feet by 120 feet, around which are shown groups of the large mammals of Africa, while the smaller animals are displayed around the gallery above. Wherever desirable, as in the large corner spaces, the groups will extend from the main floor to the ceiling.

The spaces between the top of the lower glass and the floor of the gallery will be utilised for scenes in high relief depicting the natives and their various occupations. These, of course, will have their own illumination by concealed lights around their edges. Unfortunately, art is long and life short, and while the writer hopes to see the execution of this magnificent and comprehensive plan, he does not expect to, though there is little doubt that ultimately it will be carried into effect.

Mr. Brewer's criticisms of the installation of the Goodyear photographs and the Sargent water-colours at Brooklyn certainly rankle in my breast, because they are made in utter ignorance of the facts in the case, and cast implications on the "Science Director" that the latter feels are wholly undeserved. Both installations were made by the Curator of Fine Arts with the approval of the Committee on Art Museum, and with the knowledge that they were temporary. The photographs illustrating Professor Goodyear's researches in the field of architectural refinement represent the work of years and the expenditure of many thousand dollars. They had never been seen together, save in Edinburgh, having been hung, for want of space in the Museum, on the stairways, and never all displayed at once. It was eminently desirable to show them in a body, together with the plans and elevations of the buildings from which they were taken, and grouped to show the various points illustrated. The effect, when so hung, was excellent from every point of view and afforded an opportunity to students for study and comparison that they had not

had before nor have had since. To say that they could have been better studied on screens in a "study room" is equivalent to saying that one could get a better idea of St. Paul's by looking at the individual stones than by seeing the building as a whole. Besides, there was no "study room."

The Sargent water-colours, purchased after the Goodyear photographs had been installed, were on a brilliantly, not badly, lighted staircase landing, because there was no other place for them. As Mr. Brewer points out, room might have been provided by dividing a long gallery into alcoves; but the Trustees for years turned a deaf ear to the pleas of the "Science Director" and Curator of Fine Arts that this be done, though recently the plan has been carried into effect with excellent results. Moreover, the room where the water-colours were hung has been made over, as was intended, into an admirable little hall with a background taken from that in use by the same "Science Director" at the American Museum of Natural History.

On one point at least Mr. Brewer and myself agree, and that is on the use and abuse of mouldings. Having gone from the Brooklyn Museum, which had a superabundance of heavy mouldings, to the American Museum, which has absolutely none, I can say most heartily "A plague on both your houses"—the results are equally bad, not merely from a decorative but from a practical standpoint. In the American Museum we cannot repair a ceiling without having to paint the entire space between girders from wall to wall; we cannot change the colour of a hall without special treatment of the doorways at either end; and we cannot repair or paint about a window—where repairs are most frequent—without considering the entire hall, for there is no place to stop.

It may be said that in the addition to the Brooklyn Museum, now being built, the mouldings will be simplified and low, while in the prospective addition to the American Museum of Natural History, planned by Messrs. Trowbridge and Livingston, the ceilings will be panelled and the doorways and windows will have mouldings.

There are various other matters of which I should like to speak were space available, but enough has been said, I think, to show that, like all other problems, those of museum construction, installation, and administration are by no means so simple as they appear at first sight. The Director who desires to lead a peaceful life must be prepared to take disappointments philosophically, to see his own plans come to naught while helping others to the fruition of theirs, must expect to be criticised on the one hand for what he does, and on the other for what he does not do. He would best adopt for his motto the advice of Æneas: "Remember in arduous affairs to preserve an equable mind."



HAROLD OAKLEY del.

A Proposal for the Treatment of the Surrey Side.

THE FUTURE OF THE SURREY SIDE.

By PAUL WATERHOUSE [F.]

Read before the Royal Institute of British Architects, Monday, 16th November, 1914.

MR. PRESIDENT, LADIES AND GENTLEMEN,—Like you, I am at the present time much more interested in the south side of the Channel than in the south side of the Thames. But it may be right for us to force our attention on to those subjects which now are of secondary importance; and, after all, we may truthfully anticipate that London's needs and London's future will again before long become natural and proper objects of our thought and care.

We have all heard with amusement of the wise young man who remarked on the tendency of rivers to flow through towns, and with superior wisdom have assumed that the converse is the truth. We have inverted the axiom, and state that important towns are generally so placed that they stand on both banks of a river.

As a matter of fact, this is far from being universally true. The town-builder seeks the river site primarily for water supply, secondly for transport purposes, thirdly for defence. In many cases defence is more important to the new town than transport; in many cases also the river while useful for water supply and defence is of no value at all for transport.

I write this in the present tense, but of course I am transferring myself to the days, now far distant, in which the initiation of European cities was a present, not an historical, occupation. Our modern town planners think nothing of defence, nothing of water transport, and very little of rivers as composed of drinking waters.

Using rivers as defence, our forefathers naturally did little in the way of city building on the undefended sides of their chosen rivers; as often as not, the stream of their choice was unbridgeable, sometimes almost unfordable; frequently it was actually picked out as being impassable, and consequently the original city is generally placed on one side only of the watery rampart. Marine towns built at the mouth of a river are, it is true, often found to be clustered on both banks; but how frequently, when

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this is the case, do we find that the divided town goes by two different names; thus showing either that one half is of later foundation than the other, or that the establishment of buildings on both banks is due merely to the fact that the inhabitants on both shores considered the riparian property, with its ready approach to the sea, too valuable, as a natural asset, to be wasted. As often as not, these *vis-à-vis* citadels were, I suspect, not friendly halves of the same township, but actually hostile.

Thus it comes about that in nearly every ancient riverside town, even where the buildings are thickly distributed on both banks, there is one side which is known as "over yonder," or "the other side." This is what the Romans called Trastevere—"over Tiber." Even we in London, with all our modern bridges, know what is meant by "transpontine."

Philosophers and poets attempt from time to time to overleap these traditional boundaries. "What matters it how far we go?" the Walrus then replied, "There *is* another shore you know upon the other side." There is, indeed, but how many times the Walrus, or some other adviser, has to tell us this before we truly, and economically, realise that the statement is anything more than a geographer's or a poet's fancy.

London for many centuries put up with a dangerous ford where Watling Street plunged into the Thames on the Surrey side and emerged at Billingsgate.

I do not know to what extent the original London Bridge of 1176 was covered with the houses which were so interesting a feature of its successor in the later middle ages, but one would expect that bridge to have been a great factor in developing the Surrey side as a corporate part of London. This expectation, however, was by no means verified. For a hundred and fifty years after the bridge was established Southwark was governed by its own Bailiffs. During these years the chief effect of the connection had been as far as Southwark was concerned that it became a city of refuge for malefactors who wished for any easy escape from the city magistrates, a state of affairs which was remedied by a charter under which the Lord Mayor was made Bailiff of Southwark and empowered to govern it by his deputy. It was Edward VI., I believe, who definitely granted the Borough to the city for a money consideration, and subsequently it was formally made a ward under the title of "Bridge Ward Without."

This bit of history merely serves to show that a bridge alone, even with houses on it, will not, for some centuries, serve to break down the barrier of that magic expression "the other side." The Thames, in fact, though bridged, did not flow through London. It flowed past London and between London and Southwark.

In due course other bridges were born. The eighteenth century, besides stripping London Bridge of its chapel gateways and houses (a monstrous deed), built Old Blackfriars Bridge, which it dedicated to William Pitt, and Old Westminster Bridge, which was acclaimed as "one of the noblest structures of its kind in the world."

But these bridges did almost nothing towards the sentimental union of the two townships—indeed, we find that at the opening of the nineteenth century Southwark had a special grievance. Though a ward of the city, it enjoyed no advantages from the incorporation, for the aldermanship of Southwark was adopted as a sinecure for the senior member of the corporation, and the borough got no more good out of its representative than the Chiltern Hundreds do out of theirs. In fact, a scandal arose from the fact that justice was administered in Southwark by the county magistrates of Surrey. This was intolerable to proud Southwark; its inhabitants would apparently have preferred anarchy and outlawry to such rustic justice.

But the scandal and the grievance illustrate my point that charters and bridges were still powerless to turn the outlandish Surrey coast into a bit of integral London. And even in these days it was only a part of Southwark which was nominally London. Its other division—the Clink—was administered by a bailiff under the Bishop of Winchester.

Let us, therefore, to-night approach Southwark and Lambeth with the thought that there is an old score of bad manners against our side which those on the other may not wholly have forgotten.

We go over not merely or mainly to conquer, but to make amends. We must carry across, with our tape-measures and levels, not a sword, but a very well-grown olive branch.

But before we approach let me show you a detail slide of Roque's plan of 1743. You see what has happened. In this map Lambeth Marsh, newly reclaimed from swamps and highwaymen, has been town-planned. Before the eighteenth century the map makers, unless they had a taste for sketching vegetation, used the Lambeth corner as the convenient place for the title or the table of references. But here it has been mapped out with roads on a system. The system was excellent then. It is now bad.

The South Side Committee of the London Society has occupied itself by considering how it can advise its brother Londoners on the subject of the Surrey side and its future. Its attitude has been, not to assume that the Surrey side is a proper playground for the sport of visionaries, but simply this—that whereas the Surrey area of denser London, though intimately close to the City, is at present occupied in such a way that its land does not attain the value which its proximity to the centre justifies, it is bound by the laws of what one may call territorial economics to undergo extensive developments. And the important question for you and me as owners of London to decide is, not whether those developments shall take place—that will happen whether we care or don't care—but *how* they shall take place. Let us consider first the problem of the shore itself. Opinions have been offered from a great many directions on the treatment of the right bank of the Thames, and the general gravitation of these opinions favours an embankment road. Some enthusiasts are all for a boulevard—a wide road and trees; others are indifferent about the trees, but insist on public buildings. In any case I don't think public opinion will be satisfied without a riverside road of some sort.

The London Society cast its eye on the mud bank which lines the Surrey coast (except at high water) all the way from Westminster Bridge to Southwark, and the idea of reclaiming it found at once great favour. Its width in places is so great that a hundred-foot roadway if established along its outer edge would have its inner side still well in advance of the present shore line, or rather wharfline. Could this reclamation be effected, or would the result of placing an embankment along the north edge of the mud be to invite Father Thames to collect a fresh deposit of mud north of that? Enquiries were directly made in highly authoritative quarters, and the answer was elicited that the reclamation would, as far as Thames himself was concerned (and his traffic), do more good than harm. To answer the questions whether the South Side shore shall remain commercial, and whether, if so, its commercial character shall be identical with its present use, is to assume too great a knowledge of the future. It is certainly unlikely that a tract of land which has been honoured by the establishment thereon of the new Palace of the County Council will always retain its present rather humble range of riverside establishments; but it would be taking rather a long step to assume that the whole frontage can be dedicated *ab initio* to stately public buildings. There is accordingly a good deal of wisdom in the suggestion that a portion at least of the proposed embankment should be so planned as not to interfere with the actual wharf properties which now occupy the shore. If these in time decline, their sites can be adapted to the building of those monumental structures with which some of my friends already throng the banks—in imagination. If the wharves thrive, and even receive additional consequence from the improved character of the foreshore, the way is left open for rivalling the comely waterways of Amsterdam or the antique commercial dignity of Ghent and Bruges. The device in any case is eminently non-committal. It wins land from water—and where land so surpasses tidal mud in urban value, this mere achievement ought in itself to go a long way, perhaps the whole way, in paying for the enterprise. The embankment road being only a convex version of the route which most passengers would wish to take would not be exactly a short cut to anywhere, but we know that in these days of motor traffic a curved free run is often of more use than an obstructed straight run, and the fact that opinion favours a new Charing Cross bridge which shall deliver *on to* rather than *over* the new embankment road will encourage the use of certain lengths of this road as a traffic outlet of an important

character. Expressed opinion on the subject of the retention of commerce on the Surrey shore is uttered by two kinds of enthusiasts. There is the man who says, Leave the jolly old tumbledown wharves just as they are, leave the mud and the cranes and the bits of broken jetty, leave the shot tower, and even the whiskey tower and the tea tower. The other enthusiasts say, Sweep it all away, tidy it all up, and let the soil blossom with public buildings varying in size and cost from a million to two hundred thousand pounds. If you ask me which of these men ought to have his way, I say the first man. But the fact is that he *can't* have his way. Things happen on the Surrey side whether you wish them to happen or not. The power station of the Post Office is one of the things that has happened. I know nothing of the genesis of this unfortunate building, but it quite spoils by its uninteresting bulk a quarter-mile of the landscape which it encumbers.

I venture to think there is room for a point of view intermediate between the man who says let there be costly public buildings and him who says let there be always mud and shot towers. If there is still any life in the wharf trade let us keep it going and give it dignity.

London used to have a merry quayside; perpetual and easy access to the river was necessary for everybody. The river was the highway for certain journeys, but as soon as bridges and roads superseded the stairs (or riverside landings) and the hazardous alleys which led to them, it became an axiom of London that the river was closed property. River steamers of course have in their time been an exception to this rule, but they are to-day dead or nearly so, and the suicides with their attendant police are now the only people (except professional barges and tug-men) who have any personal contact with the stream. The trade use of the waterway is utterly shut off. Think of Thames Street, or rather walk along Thames Street. You might be in Haggerston or Hoxton for any evidence you there get of its dependence on Thames traffic. You cannot even smell tarred rope in it, much less can you see a barge.

In almost every town you can think of which does trade on a navigable river there are places where you can walk along a quay, with barges or small shipping on one side of the roadway and warehouses on the other side. The conveyance of goods across the quay is, I suppose, some inconvenience, but it cannot be insuperable or it would hardly have been left to London alone of European cities to discover the peculiar cheerless solution of the problem which is her very own speciality.

The actual recommendation of the South Side report, which is offered as a suggestion rather than a definite proposal, reads as follows: "That from a point adjoining the new L.C.C. Hall to Southwark Bridge there should be a continuous embankment 100 feet wide, so placed that it shall coincide on its river-side more or less with the low-water edge of the mud-bank. At points where the embankment so found is remote from the present wharf frontages, it might be possible by the introduction of the by-stream or lagoon dock principle . . . to leave the present riverside properties in the enjoyment of their present frontages, altered only by an improvement of the water-approach, by the substitution of the lagoon for the mud bank. Barges would, of course, enter these backwaters or lagoons by channels passing under the embankment.

"In other places where the embankment comes close to the present wharf line it is thought that there might possibly be at intervals riverside warehouses, built as wide arches over the roadway, being thus brought up to the riverside for commercial purposes without interfering with the traffic uses of the embankment roadway, &c."

It was in illustration of the by-stream or lagoon dock portion of this scheme that Mr. Harold Oakley prepared the clever drawing which, by the kindness of *The Graphic*, I am able to reproduce at the head of this Paper.

The new Charing Cross Bridge project, at first a visionary idea, seems now to be looked upon by those practically concerned as a reasonable proposition. The project involves the abolition of Charing Cross Station, the formation of a bridge for foot and wheeled traffic in lieu of the present railway which reluctantly harbours a stream of compressed pedestrians, and, of course, the establishment of a new station on the Surrey side.

The idea is certainly excellent; it combines the removal of an eyesore with the introduction of a much needed public benefit. No one knows to what extent the mere annihilation of that awful nightmare of steel would re-make the vanished beauty of the Thames. That alone would be worth fighting for, and the battle once won there is not a man with an eye in his head who wouldn't clamour for the removal of the Blackfriars horror also. The removal of this latter would probably necessitate a railway below the Thames to take its place.

The advocates of the scheme offer variant proposals. Let me allude to what may be called "the battle of the levels." Mr. Lucas is the advocate and to a large extent the originator of a scheme for a high level bridge. He has right and reason on his side. He argued very capably that a high level bridge could start from the Strand at the Strand level, could surmount the present North side embankment and reach the new South Eastern Station at the level of its own railway lines. Excellent common-sense. In fact, the interesting warmth of our friendly controversy was rendered all the warmer by the fact that both sides were in the right. I, as chairman of the South Side Committee, began to think that we should finish with a sort of *Pont du Gard*, doing business at two levels.

I might mention that an interesting variant of Mr. Lucas' scheme showed a roadway starting from the level of St. Martin's Lane and surmounting the Strand as well as both embankments.

But we voted, and the vote fell on the low level.

That this was so was largely due to the production of a low-level suggestion by Mr. Niven and Mr. Raffles Davison. I may remind you that last session we had here an interesting Paper * from the latter gentleman, who produced illustrations of an excellent design which he had prepared in collaboration with Mr. Barclay Niven.

Mr. Niven has now gone further in the matter, and with singular generosity he has allowed me to introduce to this audience his plan for the treatment of the surroundings of the bridge on the South Side. I here exhibit the plan—the simplicity, dignity, and directness of which is its own recommendation, but I refrain from speaking of it at length because I am hoping that Mr. Niven is present and that he will say a few words about it himself. I shall allude to it later in connection with my remarks on the road problem.

I don't care to talk of bridge schemes without reviving once more the bridge scheme of our friend and Past President Mr. Colclutt, which I am sure deserves to be kept in view. I can see nothing whatever against this project. It is brought out every now and again, admired, and put away; condemned, I suppose, as fantastic. But there is nothing fantastic about it whatever, save in the sense that it exhibits the fertile imagination of its author.

If I do not here allude by name to all the authors of bridge schemes and South Side schemes, it is merely because their names are many, not because their claims are overlooked. Indeed, I owe much to nearly all of them, and have studied their projects largely.

On the subject of Railway Stations and their positions I do not here say much, having already said more than enough on the occasion when I was last before this audience.† I would now merely observe that while accepting the position suggested by the South Side Committee and by Mr. Niven for the proposed new South Eastern Station, I still adhere to the idea that on general grounds, and for reasons of more equable distribution, a better place would be about half-way between London Bridge and Waterloo. I realise, however, that there are very cogent grounds for setting aside the argument in favour of this intermediate site and selecting one as near as practicable to the south end of the new bridge. I must here draw attention to a most interesting paper on this railway subject, which Mr. Leaning communicated to the July number of the *Journal of the London Society*.

The road question is by no means the least important of the Surrey side problems. It is just as well in studying this, not merely to look over the map and suggest that one or two straight wide roads

* "Beautiful London," JOURNAL R.I.B.A., 23rd May 1914.

† See "London Railway Stations," JOURNAL R.I.B.A., 28th February, 1914.



PLAN OF THE SURREY SIDE, SHOWING PROPOSED NEW STREETS, LAGOON DOCK, EMBANKMENT, ETC.

Based upon the Ordnance Survey Map, with the sanction of the Controller H. M. Stationery Office.

The proposed new Charing Cross bridge, and the arrangement of streets in immediate connection therewith, including the position of the suggested new station, are taken from the special plan prepared by Mr. D. Barclay Niven. It will be seen that provision is here made for the Temple bridge, if that should ever be erected, and in connection with the St. Paul's Bridge a new road is shown running southward from the bridge. The new Hall of the L.C.C., though not here indicated, occupies the short site immediately north of Westminster Bridge. (Note.—Mr. Niven's plan shows a range of important public buildings at the point where the lagoon dock is here illustrated, and in certain other respects this diagram is a modification and extension of his scheme.—P. W.)

might be added to its tangle of confused routes. The fact is that the roads on the South Side are the unfortunate results of common-sense and system—common-sense which has become inapplicable, and system which has ceased to be valuable. When London had one ford, or one bridge and a few ferry places, it was natural that the roads approaching the town from the south should either concentrate on those points or join one another before reaching those points. Again, when bridges began to span the curving Thames and new roads were wanted on the reclaimed waste of Lambeth Marsh, what could be more natural than to let these roads radiate on to a focal point? As a result the main South of England roads are brought together at the dial centres known as St. George's Circus, the Elephant, and Vauxhall Cross.

So long as the traffic on the roads was moderate there was everything to be said for an arrangement whereby the travellers from the country were collected at points from which they could be conveniently distributed to whatever part of the town was their chosen destination. But it is clear that in a modern town of modern population such concentration is entirely the reverse of what is desirable.

The ideal planning for the arterial roads approaching a town would be that every such road should, instead of joining cause with other incoming routes, divide itself into two tracks at the outskirts of the town, thereby not only giving its passengers the chance of shortening their journey by directing themselves towards the quarter required, but also counteracting that proportionate increase of traffic which grows as the town is approached even in a road that has no important branches brought into it.

An imaginary plan of my own illustrates this principle. A plan of Manchester shows the principle in practice.

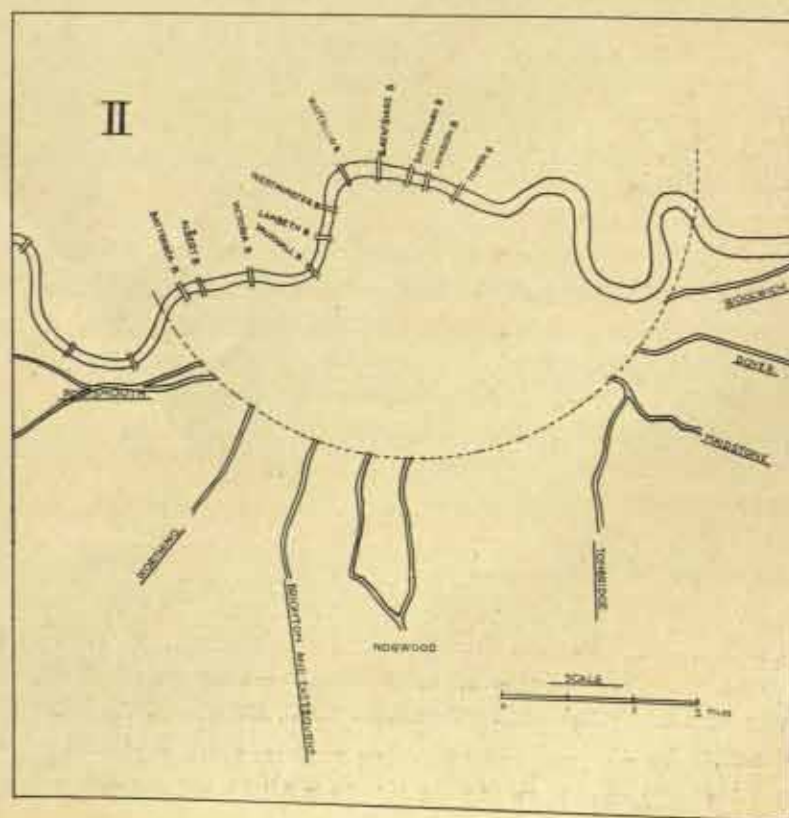
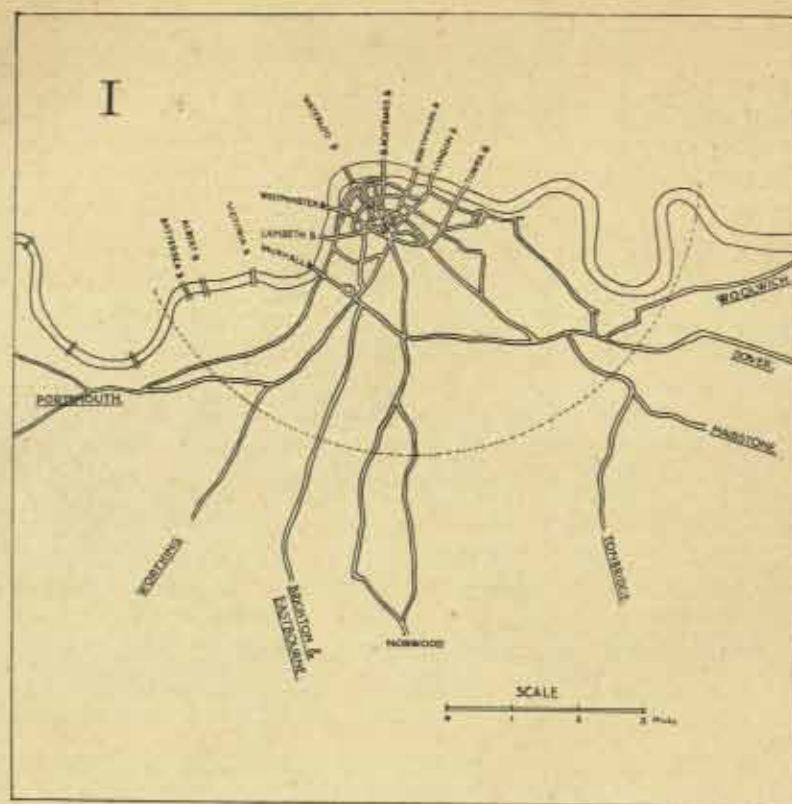
Here is a diagram [Fig. I.] of the main roads and bridges as existing. Imagine the Surrey township destroyed up to the circumference of about four miles from Charing Cross [Fig. II.], the distance at which I should like to see a circuit road. How would you reconstruct its roads? If you belonged to the eighteenth century period, liked the idea of concentration, knew that the traffic was comparatively rare, and wanted to collect tolls, you would certainly do something like this [Fig. III.]. It closely, as you see, conforms in principle to the St. George's Circus, Vauxhall Cross, and Elephant distribution, and is fairly perfect except for the fatal present objection that circuses and six-way crossings are unmixed nuisances. Of course it is impracticable to hope for a chance of entirely replanning the roads of this area, but it may be at least worth while to consider the improvements of the future with one eye on the ideal, rather than with both eyes and all energies fixed upon some accentuation of the present objectionable system.

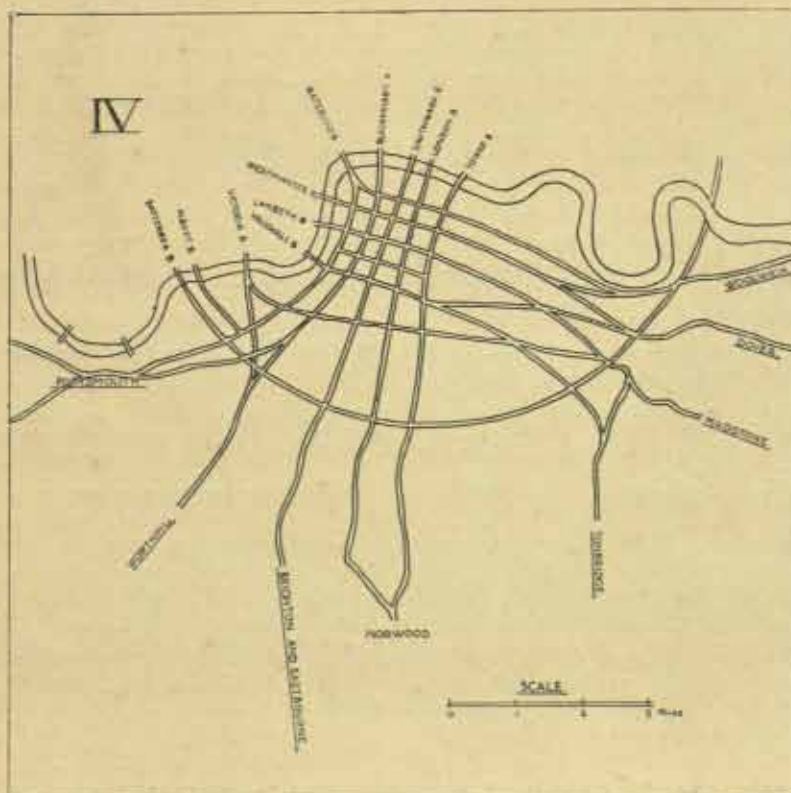
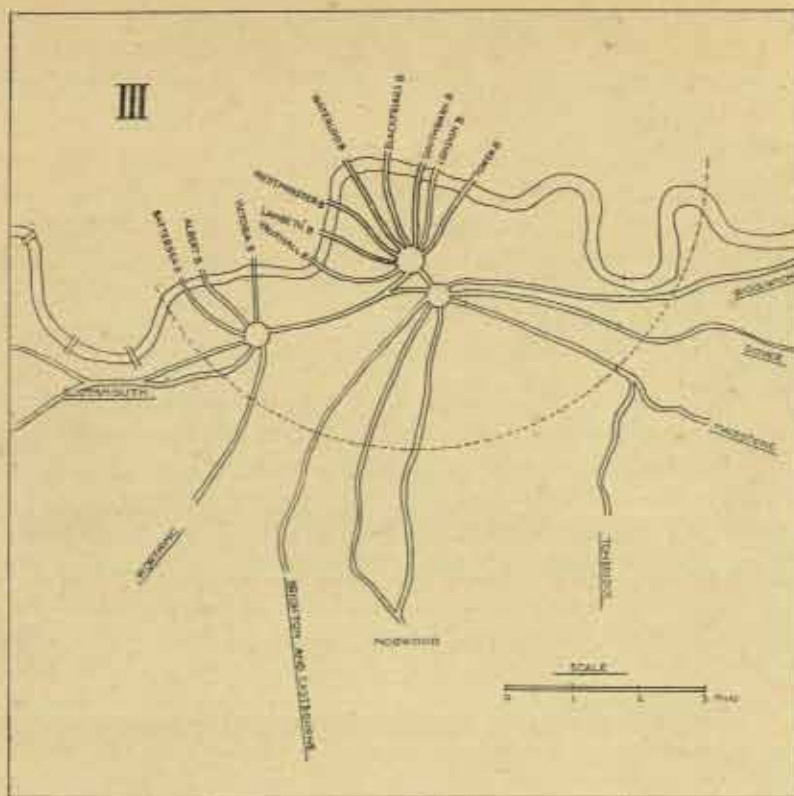
I return to my vision of the essential features of the surroundings. Here is the river, here are the present bridges, and here on the four-mile radius are the existing incoming roads. How should we most reasonably connect these roads with the river crossings in such a way as to provide:

- (a) Against over-crowding of traffic;
- (b) For an unwasteful planning of the Surrey land;
- (c) For an easy approach to any particular part of the Metropolis.

Surely the natural method would be something like this [Fig. IV.]. Of course, I here exhibit only the main streets, leaving intervening spaces unplanned.

Some of the modern suggestions for new roads imperatively needed embody the construction of fresh thoroughfares intended to discharge into the already congested whirlpools at one or other of the three main circuses. Surely we should hesitate to add embarrassment to these overworked spots without making the attempt to find out whether something cannot here and there be done to get the plan of Southwark and the Borough more nearly into line with the arrangement which appears to be the ideal. For many years I have advocated—and so have others—a comparatively direct road from Westminster Bridge to Southwark Bridge, thus providing a useful drive from the West End to the City. I am told that this cannot be, and that the best I can hope for is an improvement of the connections between Lambeth Bridge and London Bridge. I am not satisfied, for to begin with I do not altogether





recognise the new railway work of the L. & S.W. Railway as an insuperable bar to a fine continuation of the initial line of Westminster Bridge Road, and in the second place I realise that far more people want to go from Westminster to the City than from Chelsea and Belgravia.

If I cannot have my road I suggest that instead we should have two good east and west roads. One might be north of the South Eastern line and the other south of it. The high level railway lines in the whole of this region are of course a great barrier to the free planning of improvements. But something can be done even without demanding much, or anything, in the way of new railway bridges.

Taking Mr. Niven's plan as the nucleus of a fresh start, I hope to indicate that much improvement might be made in the direction of clear, straight roads leading definitely from somewhere to somewhere and going about their business quite unfettered by the suggestion that everything must call at the Elephant or at St. George's Circus, or, worst of all, at Vauxhall.

You will see that Mr. Niven has a road that runs due east from the end of Waterloo Bridge, thus serving as a sort of bow-string to the arc of the Embankment curve. This I here adopt as the more northern of my two proposed through roads. Incidentally this road would, besides offering a very direct east and west thoroughfare, serve to pick up from the future Temple Bridge and St. Paul's Bridge whenever these are built.

The exact route of the more southern road which I now propose is not quite so easy to determine. But I have made an attempt at a suggestion. After putting it down on paper I went to look at the route and was pleased to find that the Ecclesiastical Commissioners had anticipated my wishes at one part of the route. When I came as far as Gravel Lane in my journey eastward, I found the ground cleared and, wonder of wonders, the roadway itself actually laid out. But the Commissioners' road is, if I may say so, too narrow, and there is more culture about its curve than seems necessary. The large estate of the L.C.C. near Tabard Street is also undergoing reformation and roads are being laid out. This is the time to assure ourselves that they will be planned with reference to a general scheme of improvement.

You who have been about on the South Side, who have penetrated the Surrey continent, will understand me when I say that there is something amiss with it that mere roads will not cure.

You may, as you cross the river, have doubts about the mud bank, you may have a little uncertainty about whether there is poetry in Bankside or merely oddity, you may, indeed, have fully persuaded yourself that the clean sweep is the only course possible for the reformer of the shore; but spend an hour with me among the sinuous dreariness of the hinterland, where Victorian enterprise stamped its six-storied gloom upon the prosperity of the then new thoroughfares, and you will come back to the barges, the mud, and the wharves, with such a love for their serene simplicity that you could almost kneel down and kiss the foreshore. Bankside may be doubtful, but there is no doubt about Southwark Street. It is devilish. There is a gloom about its smile-less countenance that casts upon the passer-by something of the shadow of a London Sunday. You come away from it with the impression that the whole street is designed in the style which encouraged the use of stopped chamfers in combination with the Orders. The impression is not far wrong.

The expression the Hop Exchange calls up a vision of overhanging eighteenth-century houses tinged with the spirit of a Kentish market square, but the real Hop Exchange and its surroundings are such that except for the purpose of exchanging hops you would never go near it if it could be avoided. I defy anyone to whom architecture has any spiritual appeal to wander through the region between Waterloo Road and Borough Road without an attack of the deepest pessimism unless he contrives to keep exclusively to the actual slums. The slums, awful as they are, are the only cheerful spots. Barring certain churches and a few settlement buildings, there is in this region of London scarcely a single modern building that does not by sheer force of architectural iniquity radiate actual depression of spirit.

That is one reason to my mind for the formation of two or three new streets running clean through

the district. The streets themselves will not effect the cure, but the mere fact of newer architecture may. Without any doubt the architecture of business premises fifty years ago was in London beastly. The commercial architects of that day laid a heavy and merciless hand on the whole neighbourhood.

It is not merely that every generation thinks ill of that which preceded it, but it is quite certain that in that unhappy period men were given costly opportunities which they were either too careless or too ignorant, or perhaps too diabolically inventive, to use with architectural decency. The tame simplicity of the older houses in Waterloo Bridge Road is bad enough, but it is heaven to the caddish ingenuity of their newer neighbours.

I have done; but I have left many things untouched.

I should like to allude particularly to the work which is being done on the Duchy of Cornwall Estate by Professor Adshead and his partner. You are familiar with it by illustration if not by observation; it is one of the happy signs that the Surrey area is a land of hope.

You have been very patient with me. I can only say that I have not attempted to treat this great subject exhaustively, but merely to throw out some suggestions as to the guidance of future action. I have not wished to advocate expenditure, but merely to plead that the inevitable expenditure should conform to some rational and dignified plan.

DISCUSSION ON MR. WATERHOUSE'S PAPER.

Mr. ERNEST NEWTON, A.R.A., in the Chair.

MR. EDWIN T. HALL [F.]: I have the greatest pleasure in moving a vote of thanks to Mr. Waterhouse for his most interesting and valuable Paper. He very properly said that our minds are so engrossed in warfare and the science of destruction that they will hardly contemplate anything which has to do with construction. But in these trying times we shall take it as a great compliment to him that so many architects have come here to-night to consider this subject. After all, we are looking forward to the time when the war will be over and we shall again be able to tackle the problems of town-planning which concern our great city. And there is no more fruitful subject for practical consideration than the South Side, because one of the problems that prevent a great scheme being carried out on the North Side is the almost fabulous cost involved. I remember many years ago a gentleman offering premiums amounting to some £1,200 for a scheme for laying out the City of London. The Lord Mayor called a committee together to consider this, and I had the honour to receive an invitation to be present. The first and only committee meeting which was held consisted of the great bankers and other men of financial leading in the City. The meeting broke up in half-an-hour, because it was pointed out that one small street alone would cost twelve millions to reconstruct, and the scheme as a whole would cost something like twice the amount of the National Debt. So nothing more was done. But we have better hopes with regard to the South Side, because, relatively, Southwark is an inexpensive

region from the point of view of land value. It is also so intimately associated now with the North Side that something must be done to improve the traffic facilities which bring the great Southern roads into the City. The Committee of the London Society, of which Mr. Waterhouse is the Chairman, has given a great deal of attention to this subject. You will have seen by the slides how carefully the matter has been gone into, and I think you will say that, whether or not these projects can be carried out to-day—or to-morrow—they are admirable schemes to hold before you as something to be carried out during the next century or so—we hope earlier. But, at the same time, unless you do begin by laying down a scheme which shall at all events act as a basis, you will never get a remodelling of any considerable district of London. With that fascination which all Mr. Waterhouse's Papers possess, he has laid this before us. He has also told us something of the very interesting history of Southwark. I should like to draw attention to a little piece of architecture which may not be well known, but which redeems the district from the just censure which Mr Waterhouse expressed. I refer to the beautiful set of almshouses in Holland St., Blackfriars, one of the most beautiful sets of such buildings which remain in London. Now of the schemes which Mr. Waterhouse has laid before you, my earnest hope is that the Lagoon scheme will be the one which will be carried out. It has this great recommendation, that it reclaims land which is now waste, and therefore you would not be buying land in order to get a more

beautiful embankment. You are not destroying the trade warehouse value which exists there, but are putting it into a backwater, so that the traffic of the Thames will not be impeded by the barges and lighters, because they will be able to pass out of the way of the general traffic into these lagoons, discharge their cargoes and take in others, and so continue the business of the river. If, in course of time, those businesses are dispersed—because it is a most remarkable thing how trades do change—and warehouses become obsolete there, then though you had the Lagoon scheme you would have, in addition to your beautiful road, a magnificent frontage, on which, if the times demanded it, you could get fine public buildings at the back of the lagoons, and these would then be ornamental, instead of commercial waters. That is one great charm about the scheme. We should be delighted to see Charing Cross railway bridge and Cannon Street railway bridge removed from the face of the earth; they are great eyesores which spoil the otherwise beautiful vista as you approach London from the South. The battle of the High-level *versus* the Low-level schemes at Charing Cross was waged in the London Society, and the net result was that the Low-level bridge was thought to be the better of the two. But the merits of the other scheme were carefully considered and were recognised. Still, the beauty of the Low-level scheme, starting from the Embankment, from the architectural point of view would, I think, appeal to all of us. That grand "Place" which would be made at the foot of Northumberland Avenue, with the roads coming in to it at equal angles, and the Embankment joining it, would make a central feature there which would be very delightful. And by the transference of the station to the South Side, you would get a very valuable building site where Charing Cross station now stands, which would probably pay for the whole of the new bridge, if not for the station. The transference of the South Eastern station to the South Side would also relieve the traffic of London by Charing Cross considerably, because, though vehicles from the South would cross the bridge, they would have six different outlets, any one of which could be taken to disperse the traffic. The juxtaposition also of those two great stations would, from the military point of view, be very useful in the transference of troops from Southampton to Dover, and from the North generally to the South and South-West. Then, too, the great point of circuses *versus* what I may speak of as the "gridiron" principle, is well worthy of consideration and study. Many of us here will remember the time when the circuses at Holborn Viaduct, at the foot of Ludgate Hill, and other places were constructed, when it was the general opinion that circuses were the chief things to be aimed at in order to meet the traffic needs of London. I think Mr. Waterhouse is right, however, that they are impossible as foci where you have such a vast traffic as has developed in London. The study of the "gridiron" scheme—I do not use the term at all disrespectfully, but because it

calls the drawing to mind—will show that it does in a most marvellous way divert traffic, and you can get to anywhere by means of it; your crossings are rendered easier, because the traffic is spread over ten roads instead of over one only; and, furthermore, it seems naturally to lead from the main arteries to any bridge by which you may wish to go. Great East-to-West roads are undoubtedly wanted on the South Side, and to get from Westminster to the City by means of almost any of the schemes which have been submitted, would immensely facilitate traffic, and, in addition, would develop the district and lend it to a more useful occupation than it has at the present moment.

COLONEL R. C. HELLARD, C.B., Head of the London Traffic Branch of the Board of Trade: I have much pleasure in seconding the vote of thanks. It gives me the opportunity of associating myself with many of the schemes which are now before you, and in which I, personally, take a great deal of interest. The present moment, when things at home are somewhat slack, is the time, to my mind, to bring forward for discussion such schemes as these, so that when there is an opportunity of carrying them out we shall have made up our minds as to what is best. Among the various schemes there are very few which present what may be termed engineering difficulties: the difficulties are almost all financial. With regard to the proposal Mr. Waterhouse made concerning the east and west routes south of London, there is, to my mind, a danger in that you throw traffic on to the two bridges—London Bridge and Tower Bridge—which are the two least capable of taking more than they now accommodate. There is, of course, the hope that you would thereby relieve the east and west routes on the north side of the river, and a line of roads running from Westminster Bridge to Tower Bridge would shorten the journey to the far east of London very much. But you would do it at the expense of traffic on those two bridges, and the statistics show that those two carry a greater density of traffic than any of the others. I shall not to-night enter the lists as regards the question of the Low-level or the High-level bridge, but the transference of the South-Eastern Station to the far side of the river would no doubt be beneficial to the general road traffic of London. I am not so convinced as to whether the railway authorities and others may consider it would be for their benefit; but where Charing Cross Station is at the present moment there is no possible room for expansion, whereas if it were removed as suggested, they would get an area there that would allow for any amount of expansion. The scheme Mr. Waterhouse has shown on the screen will provide us with food for thought for a good many years to come, and give bankers and others opportunities for many years after that.

CAPTAIN SWINTON (speaking while demonstrating on the wall plan) said: There is only one point that I want to raise, because I do not know whether the London Society has had it in front of them. I have

been associated with this South Side of the river business now for about four years, though I have not done much at it for the last eighteen months, as my time has been too much occupied with other things. I hoped, before this war came along, that it might be resurrected. I am doubtful about it now, with a Budget of 225 millions, for the money is not likely to be forthcoming. I want to raise this point, which was brought to my notice three years ago by the railway company. When it is a question of removing Charing Cross station from north to south, you must remember Hungerford bridge, which at the present moment exists. I was told that under no circumstances could the station be transplanted until a new road bridge was built. Now you, on this plan, show your new road bridge running through your railway bridge. If you get a railway company who say they will not move until they are given access by road, you must see that the road bridge does not interfere with the railway bridge. I do not know whether the London Committee have had this difficulty in front of them. [Mr. WATERHOUSE: No.] I pointed it out to Mr. Lucas, who is now at the war. It is a serious difficulty, and it was raised at once when we began having discussions with the railway company. I went through this whole South Side question, from the financial point of view, three years ago, and it is not so easy as it looks on paper. With regard to the Embankment Road, I do not know what Colonel Hellard would think of that; I doubt that it will be very useful for traffic. With regard to a walking esplanade on that side, or a park for children to play in, I think there is everything to be said for both, like the Embankment Gardens on the north side. But I find it difficult to know what traffic would use a road! As regards a chord road, I do not know why the line of the New Cut is not easier to follow than this new line drawn on this map, for all this is bad and improvable property, and the New Cut is fairly wide already. Mr. Granville Smith, once Chairman of the Improvements Committee of the London County Council, will tell you how difficult it is to drive a road through property owned by many different people. I think it would not be very expensive to make the New Cut line into a fine road. It would not be a straight road—but does that so much matter? I do not know if a bridge will ever be made opposite the Temple, for it is unfortunate that within the last three years a lot of valuable buildings have been put up there, which would make it difficult to make the approaches. I do not know what value St. Paul's Bridge will be to London. I have always held that it will be a great waste of money. It is going to please nobody architecturally, and will be of very little use for traffic. If citizens were anxious to spend money on a bridge, and would put it up at Charing Cross, then this Great Surrey Side Scheme would become possible.

MR. H. HEATHCOTE STATHAM [F.]: There is one point in connection with the Surrey Side which

has been rather overlooked this evening. We are bound, sooner or later, to have a new Lambeth Bridge, and anyone who looks at the map will see that Lambeth Bridge is on the most direct road between Victoria Station and the London Docks; and one-half of the wide road which is required for that already exists: it only requires linking up. I published a plan to show that in the *Edinburgh Review* a year ago, and I think it is an idea which is certainly worth taking into account. And that Lambeth Bridge, when built, ought to be of such a nature and size that it will take a large traffic. When that is done and the roads are linked up we expect it will be a very important route. I want to say a word about the aesthetic treatment of the South Side. Between 1815 and 1820 an English visitor to St. Helena was told by Napoleon, "You don't know what to do with that great river of yours; you should make a great boulevard along it." I think he meant both sides. He had not been to London; he had only seen the plan of it; but he anticipated the Victoria Embankment by many years. For the other side of the river, Mr. Waterhouse professed a great admiration for the mud banks and the general untidiness of the river-side. That is all very well at the Pool and in the shipping part; but when you come to London Bridge you come to the stately part of the capital; you have a sublime bridge, like Waterloo Bridge, starting from one side, where there are buildings of architectural importance, and ending on the other side in mean streets. If you have a bridge to carry fine architecture across the river, you want fine architecture on both sides; and I think that run from Southwark Bridge to Westminster Bridge might be one of the finest things in the world if we had Napoleon's boulevards and stately buildings on both sides. I have no admiration for mud banks, at all events in a capital city, and I want to see the South Side made something fine. Another point is Mr. Colclutt's bridge, with houses on it. It is an admirable design in itself, but I protest absolutely against bridges with houses on them; when I go across a river, I want to see the river and to have the fresh air. If we do not see the river it takes away part of the picturesqueness of the town; going over a bridge is a change from going along streets; it is a new view, and it is better hygienically, also, if there are no houses on it. So, whatever the architectural merits of such a bridge may be, I do not want a bridge with houses on it.

MR. EDWARD WARREN [F.]: I should like to express my extreme admiration of Mr. Waterhouse's Paper. We always come with pleasure to hear a Paper by Mr. Waterhouse because we expect wit and wisdom, and we always get them—so invariably that one feels there is something wrong with the rule, as there are no exceptions. As to his scheme, it is much too late to criticise it in detail, but I think on an evening of this kind, when there is an opportunity of dealing with the ideal, it is excessively refreshing to deal with it on such a large scale, and cut and carve London as Mr. Waterhouse has done. There is a very

invigorating sensation about such an employment. When one makes an ideal suggestion one is often brought up by the financial expert, and it is dashed because of its impossibilities. But Mr. Waterhouse keeps these impossibilities in the background. I have recently seen Paris under its present unique conditions—I was there a few days ago—and Paris, in its present state of tragic tranquillity, gives one the opportunity not only of observing its architecture, but of observing the splendid disposition of that architecture, its great spaces and the handling of those spaces. And, walking by the side of the Seine, my heart sank at the recollection of the way in which we have treated the waterway here, which at high tide is an infinitely finer one. I do not agree with Mr. Waterhouse in any desire to preserve the hugger-mugger and extremely sloppy condition of the south bank. The picturesqueness is undeniable, especially in the twilight—and twilight does sometimes pervade London, even at ten o'clock in the morning—and such effects are valuable to the painter; but in a Capital city, with ideals, a few of which are being realised, I do not think the mere accidental untidiness and unreasonableness which are an accretion of the past should be maintained in the face of the greater possibilities of making the Thames, between London Bridge and Battersea Bridge, one of the finest things in the world. With regard to houses along the sides of bridges, I agree with Mr. Statham. I think blocks of houses on a Thames bridge would be, architecturally, a great mistake; and I agree with Mr. Statham that, having emerged from the comparative confinement of the streets, you intensely enjoy the sense of a great open space which a bridge affords, and an unhampered view of a noble river like the Thames. An open bridge is not to be bartered away without real necessity, not even from the necessity of relieving the cost of the bridge. I would express, once more, my admiration of the Paper, which has given us an evening offering boundless opportunities of considering ideals.

PROFESSOR S. D. ADSHEAD [F.]: I am one of those innumerable people whom the lecturer alluded to as having produced a scheme for dealing with the South Side of London. I rather hoped that something more would have been mentioned about the removal of Cannon Street Bridge and Station. It is as equally important to remove that, as it is to remove Charing Cross Station. I had a scheme the main outlines of which were based on the principle that it is high time that our arrangements for traffic communication became a little more subtle; that is to say, that we separate our trunk traffic from our suburban traffic. The general lines on which I went provided that suburban traffic should come over the Grosvenor Street Bridge to Victoria, and occupy the old Underground, as far as Cannon Street; that the old Underground between here should be sold to the South London System, and with the money a new Tube line

be constructed in the right position, down Victoria Street and up Whitehall and the Strand. But my suburban traffic was to be continuous, coming out from London Bridge Station by a new combined railway and a footbridge over Cannon Street, and emerging from Victoria via Grosvenor Bridge. The trunk lines would remain at London Bridge, or come through to Victoria and Waterloo. In this way I should completely free the river of railway bridges, except Blackfriars. The question of a new connection between Westminster and the City is, of course, always of very great interest; and there comes in my reason for wishing to do away with Cannon Street Station. Instead of Cannon Street Station and Railway I would put my new main bridge, not at St. Paul's, but here, and would occupy the space of the railway line for a certain distance round the curve, as the commencement of a City and Westminster traffic connection, and it would be an economical suggestion. With regard to the Embankment which so many advocate, it seems to me that we must have an Embankment; but the conditions on the South Side are not the same as those on the North; and I agree with what Captain Swinton has said, that there is no need for a road there, except that it will not cost very much to make a road, the chief expense being the Embankment. In a great scheme like this it would merely mean, in the main, pushing the buildings back a little. It would not be the same as making a road on the North Side. The conversion of this South London wharf into an area of palaces is a very drastic idea and I do not think it is likely to come off in this way. I do think, however, that one day we may have some huge Government buildings here, but they will not be exactly palaces or hotels. I do not think we shall ever have the lagoon system. I am inclined to think that improvements in our traffic systems will take away all the business that is now conducted on the river to other spots farther down. And I rather disagree with what Mr. Waterhouse says about circuses and road connections. I think it will be a great mistake, and detrimental to the appearance of a huge city, if we are not to have any traffic connections. As he presents the two systems I prefer his "spider-web" plan, with the big circus, to his gridiron plan. It is only a matter of controlling the traffic. I think the safest part of a road to-day is at an angle where a policeman is stationed. Traffic must be slowed up at these points, and go round centres or curves in a controlled way. That is the true system for collecting and dispersing modern traffic. I wish to thank Mr. Waterhouse for his kind reference to my work at Kennington and for his exceedingly interesting Paper.

MR. D. BARCLAY NIVEN [F.]: I have been very much interested in Mr. Waterhouse's delightful Paper. Not only is it delightful, but it has also been very instructive, especially the scientific diagrams in which he has suggested the roads external to his zone in relation to the different bridges crossing the river. It is well to remember that the Thames is the noblest

open space we have, and the bridges over it enable us to have a fine view of the buildings on either side of it. Coming over Hungerford or Waterloo Bridge in the evening, especially catching the first glimpse of the river from a Continental train, with the fine buildings on the North Side, and perhaps the light in the clock tower of the Houses of Parliament, the traveller gets one of the finest sights to be seen anywhere. Now that the County Council building is being erected on the South Side it is logical to suppose that fine buildings will be put near it. In the scheme I have prepared it is suggested that there should be a road bridge in axis with Northumberland Avenue, terminating in a new South-Eastern Station on the South Side. This new South-Eastern Station is put as near as possible to the South-Western, so that traffic from the South-East to the South-West could conveniently get from one to the other. I should even like to see, if that were possible, the South-Western absorb the South-Eastern, or *vice versa*, so that there would be one combined through traffic station and not a terminus at all. Captain Swinton pointed out a difficulty in doing away with Charing Cross Station and putting it on a new site on the South Side, in that the proposed new bridge clashes with the line of the existing bridge. But, of course, the new station would be built on the South Side before the present station was vacated, and a temporary bridge would be provided until the permanent bridge was ready. I have hoped that the scheme exhibited might give a dignified solution. The bridge, besides being lower, is shorter from side to side than the High-level proposal, and consequently would be cheaper. The traffic to the North would be quickly distributed by the radiating streets, and to the South would in the same way be quickly distributed to the stations and down Waterloo Bridge Road and Stamford Street. The gradients are spoken of as difficult, but the bridge would be practically the same in gradient as Westminster Bridge; the starting points at either end being the same and the rise to the middle the same above ordnance datum. None of the gradients are more than 1 in 50, which is as easy as to any existing bridge over the Thames. The slight alteration to the level of the Victoria Embankment necessary to arrive at the starting level of the bridge on this side has been carefully worked out and is shown in Mr. Raffles Davison's sketch and is hardly perceptible. The proposed Southern Embankment would be almost identical in levels with the Victoria Embankment, and, like it, would pass under Waterloo Bridge. From the new bridge you descend slightly to the Station "Place," which, however, is still 2.50 above the natural level of the ground. Consequently the approaches to the South-Western Railway and to Waterloo Bridge are both easier by that much than at present, and it would be as easy to get to the new South-Eastern Station. The level of the station is supposed to be the level of the present rails, or the same level as Waterloo. A short vehicular bridge over Waterloo Bridge Road would enable cabs or passen-

gers to get from one station to the other, and the ascents to both stations would be equally available for either. We know there will be difficulties; that, already, there are improved buildings which must be considered, and that before such a scheme can be carried out other buildings will have arrived. Messrs. W. H. Smith & Son have even now put up a building on a portion of the site where the station is proposed to be placed, so there would have to be modifications before anything could be done. With regard to Waterloo, there is the new façade, one-half of which is now being built parallel to Waterloo Bridge Road. This is set back from the road to leave room for a high-level cab rank, the remainder curves to follow the line of the railway connection to Charing Cross. It is an extraordinary thing that a slight railway curve, subject to changes in future, should determine the outline of a great station. I have great pleasure in supporting the vote of thanks to Mr. Waterhouse.

Mr. BERNARD DICKSEE [F.]: After 21 years as District Surveyor in South London I may claim to have some knowledge of the ins-and-outs of the neighbourhood. There is one point that appears to have been lost sight of. Mr. Waterhouse is probably correct about the undesirability of these circuses under present circumstances; but they are here, and we shall not get rid of them, so we must make the best of what we have. All those streets in South London were laid out in the middle of George II.'s reign, under a special Act of Parliament, those converging on St. George's Circus and the other circus. At that time there was no bridge over the Thames lower than London Bridge, so that the scheme stopped short at the end of the Borough Road, where it runs into Borough High Street. It appears to me that you have a very good scheme up to a point; why not carry it further? If you lay a rule on the map, and continue the Borough Road, which is an 80 ft. road, straight to the East, clear of the Leather Market, and widen Tanner Street, Bermondsey, you will make a fine road, over what is practically worn-out property, which will enter the Tower Bridge Road just south of where the South-Eastern Railway crosses it. This would make a line for traffic South of the River from the East over Tower Bridge along the new street and the Borough Road; the traffic could then be dispersed over the various bridges by the roads that radiate from St. George's Circus. I have raised this scheme before, at the Local Government Board enquiry, but it has been objected that the Tower Bridge cannot accommodate any more traffic. Colonel Hellard has given me some figures showing how many vehicles cross the bridge in the course of a day, but by spreading the number over 12 hours only out of the 24, it does not give a great number for every few minutes. Tower Bridge has never been inconveniently crowded at any time when I have been near it. But the scheme need not stop at Tower Bridge Road; it could be continued across that road, possibly by a narrower street, and be connected with the two tunnels that pass under the

Thames. In that way you get a short cut from East to West without going North of the Thames. It would appreciably relieve the traffic in the Strand and Oxford Street. One of the merits of such a scheme is that it would pass over an area of rotten buildings—and I use that term advisedly—one part would be laid out afresh, and the other part would consist of streets that exist at the present time. With regard to the lagoon system, I do not know whether any of the gentlemen here have visited the City of Copenhagen; if they have not, it is well worth a visit on that point alone. I do not know any city where water forms a more important part in the laying out; it is extremely charming. I have great pleasure in supporting the vote of thanks.

THE PRESIDENT: I shall not attempt at this late hour to sum up so many different views, but shall content myself with putting the vote of thanks to Mr. Waterhouse for his most able and interesting Paper. Mr. Waterhouse has the incomparable gift of making everything seem so easy—whether it is the removal of our railway stations or the replanning of the whole or a part of London, it does not matter, everything is quite easy. Difficulties are touched on with a light and delicate humour, and seem to disappear of themselves. It is always difficult to know which to appreciate most—the matter of his Paper, or the way in which he puts his views before us. However, he is always certain of a full house, and I am sure I am speaking for everyone present when I tell him we have been instructed and entertained. I now formally put the vote of thanks, which I am sure will be carried by acclamation.

MR. WATERHOUSE: Mr. President and Gentlemen, I think I must be allowed to say one or two things, however late it may be, by way of thanking the friends who have spoken, and among them Mr. Hall and Colonel Hellard. With regard to the overcrowding of London Bridge, it will be remembered that I specially abstained from running the proposed North Road into Borough Road by way of saving London Bridge extra work; and I am hoping that the relief road which is brought into being by Mr. Niven's brain, by picking up the other bridges, will relieve some of London Bridge's duty. Captain Swinton is one of those gentlemen whom I should have wished to mention, and whom I spoke of as remaining anonymous to-night. I was very well aware of Captain Swinton's work in this matter; I believe much of it is veiled under a dignified anonymity, and I did not know how far I should be at liberty to mention his name in connection with it. I am grateful to him for having come to-night. I have been asked why I did not put a new road along the New Cut. It was along the New Cut I originally suggested going, but I have been so criticised for it that I thought it was time to shift my ground and try something else. I agree with Captain Swinton about St. Paul's Bridge, but, if we must have it, it would be as well to have a way of getting to it from the South Side, and that is why I suggested there should be a road leading to it.

Mr. Warren and Mr. Statham both expressed themselves kindly. To both I would suggest that the Ponte Vecchio is not a bad bridge though it has shops on it. The treatment is only proposed for one bridge, and I think that even with Mr. Colcutt's bridge we could get a whiff of fresh air and be able to get occasional peeps of the river. I have been called bold this evening; but Mr. Adshead has been bolder in removing Cannon Street Station. That, I am told, is the one irremovable thing in London.

MR. H. J. LEANING, F.S.I., sends the following contribution to the discussion:—

After a long experience of the Sphinx-like impartiality of Mr. Waterhouse as Chairman of the South Side Committee of the London Society, it has been very refreshing to hear from his own mouth what he actually thinks. His synthetic method brings us to the conclusion that, so far as the roads are concerned, we must either work upon almost identical lines to those now made, or make a wholesale clearance and reconstruct.

If opinions were unanimous as to the avoidance of circuses possibly some consideration might be given to the latter course, but they form so integral a part of the planning of most of the European capitals to-day, that one is tempted to think that under proper control they will continue to enter into new plans, though possibly on a much larger scale than before.

The railway concentration scheme which appeared in the July number of the *Journal of the London Society*, to which Mr. Waterhouse honoured me by directing attention, is so intimately connected with the development of South London, that I feel until that problem is solved other efforts concerning roads, &c., will be in vain.

I think Mr. Waterhouse himself is uneasy about it, as he enunciated in a Paper read last year before the Institute a scheme for bringing the Metropolitan Railway across the River and back to join the existing system; but to my surprise he did not mention this scheme on the present occasion.

Much as I admire Mr. Niven's plan for the new Charing Cross, I cannot escape from the conclusion that such a small railway as the South-Eastern and Chatham cannot possibly require two West-End termini. All the main trunk lines are satisfied with one terminus, and it is only for the reason that these two termini once belonged to different companies that they exist to-day. Our present services have become so much a part of our daily life, that it requires a good deal of courage to alter them; but having persuaded the educated public that alterations are necessary, let us go to the root of the matter and consider the whole question of the railway approaches to London from this side as a whole.

It is important to remember that since these lines were constructed great changes have occurred. The

rival systems with their rival routes to London have amalgamated, and it was thought that there would be immediate changes to abolish the waste of competition. They never came, and we still have double routes from several places. The waste is further aggravated by the changed conditions of road traffic, as motor-buses and electric trams have largely superseded suburban railways—so much so that it would probably be found that the expenses of up-keep of the stations and many lengths of lines close to London actually exceed the takings of the companies from these lines. If that is so, it clearly ought to be in the interests of the Company as well as of the public for some scheme of concentration to be carried out.

I endeavoured to show in my article that by gathering together all the approaches on this system at one point near Catford, as indicated on the official railway map, and by constructing from that point underground lines both to Victoria and to Cannon Street, that the essentials of the present service would be maintained, that only $8\frac{1}{2}$ miles of new line would be required, that roughly 29 miles of viaduct, &c., could be removed without any sacrifice, and that the proceeds of the sale of the land upon which the latter run ought to go a long way towards defraying the cost of the new line. Not the least of the advantages which would accrue from such a scheme would be the removal of *all* the iron bridges across the Thames, the removal of the iron bridge across Ludgate Hill and the station adjoining, the possibility of extending London Bridge Station by the Brighton Company and a proper treatment of its approach, and also the possibility of a proper treatment of Waterloo Station (now so badly spoilt by the South-Eastern lines). Incidentally also, Southwark Cathedral might hope once more to stand in dignified and worthy surroundings.

No doubt there are objections to the scheme, one of the greatest of which is its magnitude and the necessity of Government support for its realisation. This latter seems to be more remote now than ever, and I fear that not even a partial scheme for improvements of any kind stands any chance of being looked at for many years.

With regard to the question of a roadway along the proposed new Embankment, I should prefer to see the new buildings set back a considerable distance from the water's edge, but would much rather see the space between them and the river laid out as public gardens than as a road. There is a pressing need for them

everywhere, especially in South London, which is lamentably deficient in such spaces.

I cannot see how any general scheme for the re-development of Lambeth and Southwark can be carried out until the various owners have agreed between themselves as to the various uses to which certain portions of the land shall be devoted. The residential, commercial, administrative, official, and other areas must all be allotted, and as such allotment may lead to unfair restrictions upon certain owners to the advantage of other owners, I think it may be necessary to establish a Commission to settle the various rights and compensations.

Much controversy raged a little time ago around the question of the type of dwelling which ought to replace the ones that will be removed: I think this problem has been very happily solved by Professor Adshead at Kennington, where he has been able to secure the utmost elasticity in the sizes and accommodation of the various tenements, never allowing them to become too large to control and never permitting any single building to assert itself at the expense of its neighbours.

St. Stephen's House, Victoria Embankment:
17th November 1914.

To the Editor, JOURNAL R.I.B.A.,—

The South Side and the London Society.

DEAR SIR,—After hearing the witty and instructive Paper by Mr. Waterhouse, clearly two fundamental matters predominate as to the South Side, one being financial and the other æsthetic.

1. It seems to me that the present war will metamorphose our army, and that, as our main military depôts are situate on the southern lines, these latter must surely be taken over soon by the Government. Such a move will simplify the present difficulties concerning the abolition of *all* railway stations on the North Side.

2. But, whatever scheme be adopted for a boulevard on the South Side, it will be damned æsthetically (as the North is at present) by those hideous eyesores, the trams. Granted, however, that they are necessary evils, let the London Society inaugurate a competition for decently designed trams, including the lettering of the advertisements.—Faithfully yours,

PHILIP A. ROBSON [A].

REVIEWS.

ARCHITECTS AND BELL-HANGING.

Bell Towers and Bell-hanging: An Appeal to Architects. By Sir A. P. Heywood, Bart., M.A. With contributions by Edwin H. Lewis, M.A., E. Alexander Young [A.], and others. 80. Lond. 1914. 2s. net. [Longmans, Green & Co., 39 Paternoster Row.]

Bell-ringing, as a science, is so essentially and exclusively English, both in its initiative and development, that any treatise written with the object of setting it upon even a higher pedestal than it already occupies is to be welcomed. This is not less true even if we are bound to admit that such a genuine enthusiast as Sir A. Heywood may be apt to treat his subject from a somewhat exclusive standpoint. He is an undoubted expert in some branches of engineering. If dubbed an amateur, the word must be used in its best and fullest sense. His title to be not only an enthusiastic but an expert change-ringer is indisputable. His presidency of our chief Bell-ringing Society rests upon solid achievement in the fascinating exercise he has made his own and transmitted, so report says, to two equally skilled daughters. It is an undoubted advantage for architects to have before them a comprehensive statement definitely from the expert bell-ringer's standpoint.

If this volume had no other claim, it would deserve notice for Mr. E. H. Lewis's able mathematical paper directed "to expose the fallacy that elasticity in a bell frame relieves the strain upon a tower," which, although occupying only 22 out of the 186 pages of the book, constitutes by far the most important contribution. Demonstrations of this kind are worth sheaves of theory or preconceived individual opinion.

But, having said this much, it must be added that the arguments used are not to be accepted as finally conclusive of the thesis set forth, that steel or iron is the only medium to secure such rigidity as is necessary in bell-frame construction. However sympathetic the reader, he cannot but be struck by some curious solecisms, some contradictions and unsupported assertions which do not bear analysis. The outposts, indeed, meet us on the first page of Sir Arthur's introductory chapter, where an earnest appeal is made "to architects to weigh more carefully the expert views of bell-hangers and ringers upon highly technical points. . . &c." "*Crede experto*," he says, and architects cannot but be in sympathy with the remark. But he there and then encourages our credulity by the frank admission that "the bell-hanger may be, and occasionally is, a dangerous man to be allowed a free hand in a church tower," and that "church authorities, whether from motives of economy or in deference to the wishes of the bell-hanger, not uncommonly allow the latter his own way." And we are further told that "an incompetent bell-hanger in a frail tower almost certainly works mischief."

Although not succinctly set forth by our author, we may thank him for so clearly implying the obvious conclusion, which hardly needs statement in this

JOURNAL, that no bell-hanger—or, for the matter of that, no other form of engineer—should be let loose upon a church or other work of architecture without the supervision of an expert architect. In a wider sphere we have just had a noticeable instance of the truth of this at St. Paul's, and it is not less true when provision for bells is under consideration.

Take another case. The whole essay contends for rigidity by the employment of steel. Yet the case is given away at the conclusion of the chief author's contribution by the admission that, to secure rigidity, rivetting ought to supplant bolting. "Bellfounders," we are told, "have hardly yet realised that rigidity cannot be obtained in bolted work unless the holes be reamed and the bolts turned to a driving fit." One of the strongest objections to the metal frame as at present constructed could not be better stated by its keenest opponent. Sir Arthur does not add that the extra cost of rivetting or reaming or turning in any complete form would be likely to render the cost of metal frames generally prohibitive.

We become conscious as we proceed that we are dealing with advocate rather than logician, and while the arguments used will doubtless serve to strengthen the prejudices of the bell-ringing confraternity in favour of metal, for reasons which will appear presently, the genuine enquirer cannot feel convinced or even satisfied.

Or another instance. Mr. E. H. Lewis is reinforced by the late Lord Grimthorpe, "distinguished," so says Sir Arthur, "both as architect and engineer." Mr. Thackeray Turner is, on the other hand, demolished by the quotation of a characteristic and well-remembered *Times* letter from Lord Grimthorpe, wherein he claims for himself finality upon this as upon every subject he touched. "This," he says, "is a mechanical question which I have been dealing with in every way for sixty years, both as a builder and a bell designer, including bell-hanging." Mr. Lewis evidently feels himself in queer company, for in giving us typical samples of bell frames for our instruction he remarks upon Frame 1 that it "was planned by the late Lord Grimthorpe in order that the bells might neutralise each other. The effect is exactly the opposite, and the alternations of force are continuous and large"! But perhaps Mr. Lewis was unaware that we were to be harried by Lord Grimthorpe's blank cartridge in another part of the volume!

The enquiring reader will multiply instances like the above, and at the same time find that the thesis is supported by some naïveté and a good deal of overlapping. The first is instanced when Sir Arthur assures us that before Mr. Lewis's now first published investigations it had always been considered (clearly by Lord Grimthorpe and presumably also by himself) that if two bells swing in the same plane and are roped on opposite sides they neutralise one another. Of course they do, if they are "fired"—i.e. rung simultaneously. But as bells are generally rung in sequence, the exact opposite is the case. It is curious

if true, that even Lord Grimthorpe and other experts should have hitherto failed to appreciate such an obvious point.

In the matter of overlapping, three times are we told the pretty story how the once-heard extraordinary beauty of the Lavenham bells was explained by the fact that the roof was off the tower—a story which the present writer is compelled from actual knowledge to shatter as apocryphal. Lavenham tower has never been unroofed in the memory of man. A small area of lead was once lifted to uncover a beam by means of which a bell was lifted for adjustment. The Lavenham bells are remarkable at all times, probably because (1) they are beautiful in themselves; (2) they are not tuned on Canon Simpson's principle; (3) they are hung upon a wooden frame in a splendidly capacious and lofty belfry, which fulfils all that Sir A. Heywood very rightly asks that a belfry should do.

To those who have not made a special study of towers—a study not complete without all the considerations surrounding bells and bell-hanging—Chapter III is specially to be recommended. The author's somewhat exclusive outlook is, however, indicated by the objection he raises to clocks in bell towers, whereby the clock-face is set up as an incubus to the architect. It is true that unsatisfactory clock-faces predominate. But most of them are surely derived from stock. How pleasing the clock-face can be in the hands of a competent designer the example at Colchester, St. Leonard, may be quoted. Nor can one concur as to the effect of deep louvres "shooting the sound down into the churchyard." The present writer has experimented upon this to find it a fallacy, at least with wooden louvres. Sound waves are much more complicated, and, moreover, wooden louvres have a resonance of their own. The statement that louvres 6 to 9 inches in height, *without overlap*, suffice to keep out snow, to say nothing of driving rain, may lead the inexperienced architect who heeds it into serious disappointments.

Now, the whole matter resolves itself into two main propositions: (1) Shall the frame be of metal or timber? (2) In either case shall the upper member of the frame as well as the under be attached to the tower?

Our author answers "metal" to the first question and "yes" to the second, and marshals all his forces in support of his faith. All but one, that is, in regard to (1). In these days of Central Councils of Bell Ringers, County Associations, College Youths, Diocesan Guilds, University Guilds, Irish Associations, and other ringing societies, to one or the other or most of which every contributor to the volume belongs, the easy running of a new or rehung peal at the very outset of its career is of first importance, as it is equally to the bell-hanger. It is the latter's custom to arrange that one or other of the societies baptizes the bells for him, and the encomiums are duly posted to the next customer. How many of us have not been treated to testimonials of this kind which come more freely from the less well-known firms of bell-hangers!

Now, a metal frame is at its best when just constructed, with the bolts all tightened up and the adjustments freshly made. The cement which pins the girders into the walls is all new and taut. The shrinkage which inevitably takes place in the first four years of its life has not yet set in. Nor have the ends of the irons begun to rust and thrust out or apart the walls. The Guild comes, and perhaps (to the distraction of the inhabitants) is coaxed by the smooth running of the mechanism to bring to a successful conclusion a peal of 18,028 changes in 12 hours and 19 minutes, and thus beats the record of the longest and finest performance in the annals of change-ringing (see p.17).

But what if the frame had been of the now despised and discarded oak, more and more difficult (alas!) to procure well seasoned? The partially seasoned wood would have been at its worst when new, for it takes a year or more to settle into place. The bells would have gone heavily and the inhabitants would have been spared! But where was the bell-hanger's testimonial?

Add to the above the ease of getting the iron and steel and the difficulty of securing the oak, and it is not hard to appreciate the bell-hanger's ready acceptance of the Ringing Guilds' obvious preference; and a good reason follows why so many splendid timber frames, as, for instance, the magnificent one at Wimborne Minster, have been condemned and turned into trinkets or firewood.

Against such wonted and unwarranted destruction it is the business and the duty of architects to protest, and to make their protest good by refusal. The superiority of metal over wood is not yet proved. The assertion of it certainly does not warrant wanton destruction. The metal frame is a piece of machinery, as, indeed, Sir Arthur Heywood claims, and it is well known that modern machinery has a singularly short life, even when cared for in a manner the bell frame can never expect to be. The nuts can work loose and, unless kept smeared, become set and immovable; the best of red lead is ephemeral, and constant painting and expense are called for, which the rural parish can ill afford; the ends of the girders rust in the often damp walls; the cement works loose, as cement will. A time comes when the ringers begin to wonder if they have gained by the destruction of the good old frame.

On the other hand, after one or possibly two adjustments of the well-constructed timber frame (adjustments which the conscientious bell-hanger will make free of cost), it settles down to a life of perhaps two hundred years, if we may judge of some of the admirable constructions of our forefathers, although they depended only upon wooden pins and experience instead of graphic statics.

That a lasting metal frame cannot be constructed, especially if expense be no object, is not for a moment advanced. It must, however, have a great deal more solidity and weight than has yet been attempted, and it should be entirely of cast metal rivetted. Meanwhile the record of some of the metal frames erected during the last few years is not always a good one.

The Society for the Protection of Ancient Buildings will be adding to its useful work by setting forth succinctly the failures it has recently been investigating.

Upon the important question of rigidity as set forth by Mr. E. Lewis, one has to ask why through all times bells have been hung upon a so-called cage, supported upon beams. Obviously the most rigid construction consists of girders of sufficient strength to support the two gudgeons of the bell, calculated (for vertical thrust) at at least four times its weight, plus the weight upon the one end of any other girder the main girder may have to carry. Such frames have been constructed (there is said to be one at Shipton-under-Wychwood, Oxon.), and have failed.

A point which Sir Arthur does not adequately emphasise is weight. The relation between the weight of the swinging metal to the massiveness of the tower and the weight of the frame is too frequently not well considered. For weight of frame such a simple single-girder construction would fulfil all claims, as well as those of rigidity. The writer has put this form of construction before well-known bell-hangers of great experience, and they will not even consider it. There seems to be a consensus of opinion that the frame raised over the beams does "take up" the complicated thrusts and strains inherent in a mass of metal swinging in all directions. If this be so, then the attachment of the top member of the frame to the walls must be wrong, despite Mr. Lewis's conclusions. If it be not so, then why complicate the matter by framed construction such as Messrs. Taylor's "H" frame from Pontypridd and "side frame" from Wimborne, the latter stated to be introduced to conciliate architects' prejudices? This is not a top-stayed frame, but with the advance of knowledge we are promised "the top-stayed frame as the feature of future scientific bell-hanging."

In this connection the present writer's experience of an iron "A" frame may be recorded. Such a one without top stays had been inserted in a somewhat weak ancient tower, no architect having been consulted. Its effect was so pernicious that the bell-hanger had added top stays—only to make matters worse—and after three months' use the bells had perforce to be silenced. Then the present writer was called in. The frame was condemned and a properly constructed oak one introduced with excellent results, but unfortunately the "A" frame-maker had already been paid.

It may be added that the oldest firm of bellfounders in the country declare that they never have and never will construct a top-stayed frame, either in metal or timber.

One point must not be overlooked by the architect. The bell beams, of whatever material, should be rigidly connected with the tower, and if possible with its four walls—not only two of them. In several ancient towers the beams are placed anglewise from centre to centre of each face, and under certain cir-

cumstances there is a good deal to be said for this construction.

We may leave the subject of bell frames with the suggestion that a scientifically constructed frame of reinforced concrete would have a special interest, which it is hoped soon to realise.

Sir Arthur Heywood's preface introduces us to "a revolution in the methods of tuning"—as well as of hanging bells, "conducting materially to musical effect." So far as this refers to mechanical methods of tuning at the foundry, we are at one with him; but we are introduced later to Canon Simpson's heresies, which are emasculating the truest form of bell music in favour of a weak prettiness. As though it were the function of bells to tinkle tunes, or one would wish Wagner's horns omitted from his orchestra!

On this heading a little-known pamphlet by another Mr. Lewis—Thomas C. Lewis, the able and imaginative organ-builder—may well be studied. It is called "A Protest against the Modern Development of Un-musical Tone," and goes straight to the point. Canon Simpson hollows out the crown of the bell in such a manner as to cause the "tap tone and the hum tone" to be true octaves. "Now," says Mr. T. Lewis, "there is nothing poorer in tone than a large bell having a tap or percussion note of a stated definite pitch, and the lower or hum note accompanying it an exact octave deeper. On the contrary, and in defiance, seemingly, of harmony, a fine bell with the tap tone E should have its hum tone a major seventh below, but flattened to the extent of a quarter of a semitone." The musical ear is always seeking that combination of two blended tones, when the true ancient bell tone has been once appreciated.

The other papers and appendices in Sir A. Heywood's volume are worth reading, but have not the same interest. Mr. Alexander Young [A.], the architect contributor, is quite sound and interesting. It is noticeable that he adds no reinforcement to Sir A. Heywood's appeal in favour of metal, but sits upon the fence. His lapse into the statement that steel has the advantage of being readily adapted to the construction of a *light* and strong frame is somewhat curious.

The Central Council of Bell Ringers' Report, from which extracts are given, is, or should be, a well-known document among architects.

Sir A. Heywood's book lacks the precision of scale diagrams such as architects naturally look for, and is less interesting on that account. It is to be regarded as an *ex-parte* statement in favour of a fashion which will hereafter be often regretted, as it has been already in a good many cases, by those who are too easily led away by specious arguments. It is not likely to have on this very account much weight with architects. That timber has defects, difficult to conquer (although conquerable), is true. But steel, as so far used, is not the final substitute. We have still to look afield for something better than the tried and trusted Heart of Oak.

W. D. C.



9 CONDUIT STREET, LONDON, W., 21st November 1914.

CHRONICLE.

War Clauses in Building Contracts: Insurance against War Risks.

Following upon a Joint Meeting of representatives of the National Federation of Building Trades Employers, the London Master Builders' Association, and the Institute of Builders, held soon after the outbreak of war, the President of the R.I.B.A. received a request from the President of the Institute of Builders that a deputation from the above-named bodies might be interviewed by representatives of the R.I.B.A. with a view to an agreement being come to upon Special War Clauses for insertion in Building Contracts. Mr. Max. Clarke, Chairman of the Practice Standing Committee, Messrs. Edward Greenop and Percival M. Fraser, with Mr. Matt. Garbutt as Hon. Secretary, were accordingly requested to meet the contractors' deputation. The meeting took place on the 4th September, the builders being represented by Mr. F. G. Rice, President of the Institute of Builders, Messrs. Benjamin J. Greenwood, A. W. Sinclair, F. Higgs, W. F. Wallis, Thomas Costigan, Secretary of the Institute of Builders, and A. G. White, Secretary of the National Federation of Building Trades Employers. One of the matters to which the deputation drew especial attention was the possibility that prices of materials might increase in a way which, when combined with other conditions, might cause heavy loss to contractors. Cases were instanced in which several months were allowed to elapse between the date of delivery of a tender and the date of its acceptance. The Practice Committee have since carefully considered this and other matters relating to building undertakings affected by the war, and have reported to the Council. The result, as regards the main points, is contained in the following letter, which has been addressed to the Institute of Builders and the National Federation of Building Trades Employers:—

18th November 1914.

DEAR SIR,—I am desired to inform you that the Council of the Royal Institute of British Architects have now completed their consideration of these two questions. The Practice Standing Committee has carried out an exhaustive investigation into the circumstances and we have had the great advantage

of the collaboration of the representatives of the Builders.

After the most careful consideration of all the circumstances the Council have finally passed the following resolution:—

"That the Council of the R.I.B.A. are of opinion that they cannot usefully take any official action with regard to providing in Contracts against war risks or variations in cost of materials caused by or attributed to the war, and that it considers that it is best that each matter as it arises should be dealt with upon its merits by the parties concerned."

In communicating this resolution to you they will be glad if you will kindly express to the Council of your institution their appreciation of the assistance which has been so readily extended to them in the consideration of these important matters.—Faithfully yours,

IAN MACALISTER, *Secretary.*

The R.I.B.A. Record of Honour: Fourth List.

Appended is the Fourth List of Members, Licentiatees, and Students R.I.B.A. who are serving with His Majesty's Forces for the duration of the War:—

FELLOWS.

Barrow, Ernest R.: Sub-Lieutenant, R.N.R.
Cave, Walter: Chief Petty Officer, R.N.V.R., Anti-Aircraft.
Kitson, Sidney D.: Lieutenant, Yorks Hussars.
Wheeler, Montague: Captain, 4th Royal Berkshire Regiment (National Reserve).

ASSOCIATES.

Amery, T. F.: R.N.V.R. Anti-Aircraft Corps.
Andrews, P. M.: 9th London Queen Victoria's Rifles.
Barefoot, Leslie: R.N.V.R. Anti-Aircraft Corps.
Chandler, J. H.: Chief Petty Officer, R.N.V.R. Anti-Aircraft Corps. [Mr. Chandler's name appeared in error in the Students' List in the last issue.]
Cotton, P. P.: Sub-Lieutenant, R.N.V.R.
Dawson, W. F.: Leeds City Battalion.
Dod, H. A.: 3rd Battalion King's Liverpool Regiment.
Fraser, Gilbert: Lieutenant, 1st City Battalion, King's Liverpool Regiment.
Gold, Hugh: Foreign Service Battalion, West Kent Regiment.
Leroy, A. D.: R.N.V.R. Anti-Aircraft Corps.
Martyn, Lawrence D.: Royal Army Medical Corps.
Maufe, E. Brantwood: Royal Naval Volunteer Reserve.
Meikleham, D. L.
Mootham, Delmé G.: 4th Battalion, Royal Fusiliers.
Nimmo, W. Wilson*: Artists' Rifles.
Oakes, Rycroft: Queen's Westminster Rifles.
Paxton, James: Chief Petty Officer, R.N.V.R. Anti-Aircraft Corps.
Phillips, L. A.: Public Schools and University Battalion, Royal Fusiliers.
Schofield, J. F.: Motor Cyclist Corps, Royal Engineers.
Sinclair, W. Braxton*: Lieutenant, 7th Battalion City of London Regiment (formerly of the 6th Battalion Essex Regiment).
Warnham-Tickle, A. G.: Machine Gun Section, Hong Kong Volunteers.
Winch, A.: Leeds City Battalion.

Erratum.—Lieutenant Hubert Worthington is attached to the First City Battalion, Manchester Regiment (not the Thirty-first Battalion, as described in the last issue).

* The starred names appeared in an earlier list, but the regiments to which these members are attached are now added.

LICENTIATES.

Adams, F. B.: Wiltshire Regiment.
 Beckwith, H. L.: Lieut.-Colonel, 4th Battalion Loyal North Lancashire Regiment.
 Biram, Frank S.: Captain, 5th Battalion South Lancashire Regiment (Terr.).
 Bricknell, T. M.: R.N.V.R., London Division.
 Corblet, C. J.: R.N.V.R., Anti-Aircraft.
 Goodacre, J. F. J.: National Reserve, Notts.
 Grote, A. L.: Lieutenant, Musketry Instructor.
 Henderson, Harold E.: Active Service, British East Africa.
 Henman, C. H. R.: Engineer Unit, Royal Naval Division.
 Kirby, E. B.: Captain, 3rd West Lancashire Brigade, R.F.A.
 Mayell, R. Y.: Royal Engineers.
 Morter, S. P.: Major, 4th West Lancashire (Howitzer Brigade), R.F.A.
 Newton, Francis: Staff, 2nd Division of Cavalry and Artillery.
 Ward, J. W.: Sportsmen's Battalion, Royal Fusiliers.
 Windsor, Frank: Royal Engineers.

STUDENTS.

Ashenden, H. Campbell: Lieutenant, 3rd Home Counties Brigade, R.F.A.
 Bagshaw, A. S.: "A" Squadron, West Kent Yeomanry.
 Beasley, Albert: Royal Horse Artillery.
 Brown, W. J.: Royal Engineers.
 Clemes, Francis: Hertfordshire Yeomanry, Egypt.
 Foster, Leonard: Leeds City Battalion.
 Grellier, Cecil: Inns of Court Officers Training Corps.
 Higgs, H. J.: Royal Engineers, No. 13 Signalling Co.
 Holroyd, Frank: R.A.M.C.
 James, C. H.: 5th Gloucester Regiment.
 Jones, C. F.: R.N.V.R. Anti-Aircraft Corps.
 Keyte, J. R.: 1st South Midland Brigade, Mounted Field Ambulance.
 Ledger, Godfrey H.: R.N.V.R. Anti-Aircraft Corps.
 May, T. W. V.: 5th City of London Rifles.
 Newbury, C. J.: 7th Battalion Royal Fusiliers.
 Norris, Leslie A.: Empire Battalion, 7th Royal Fusiliers.
 Palmer, T. R. L.: Lieutenant, Public School Battalion.
 Probert, J. M.: 1st Battalion Monmouthshire Regiment.
 Walsh, J. B. M.: Artists' Rifles.
 Wills, Trenwith L.: Middlesex Hussars.
 Woodhouse, C. H.]

Erratum.—Mr. J. H. Odom, previously described as of the Sherwood Foresters, is with the Derbyshire Yeomanry ("A" Squadron).

R.I.B.A. STAFF.

Baxter, Sergeant A. F. (Commissionaire): Master Gunner, Royal Garrison Artillery.
 Cooper, L. R. (Library): Territorials.
 Spragg, C. D. (Secretary's Office): Queen's Westminster.

Subscriptions of Members on Service.

The Council, acting on the recommendation of the Finance and House Committee, have resolved that subscriptions due in January 1915 be remitted in the case of all Members and Licentiates who are at that time actively engaged in the defence of the country, and that the publications of the Institute be sent to their home addresses during the period of their service.

Architects' War Committee: Relief of Professional Unemployment.

The Professional Employment Committee of the Architects' War Committee communicate the following outlines of a scheme for Civic Surveys which they

suggest should be organised forthwith with a view to the relief of professional unemployment:—

In view of the general recognition of the fact that thorough civic surveys are an essential preliminary to the preparation of sound schemes for the future development of our cities, it may be pointed out that the present moment offers exceptional opportunities for enlisting the services of those peculiarly qualified for such an undertaking. It is already evident that during the continuance of the war there will be a considerable diminution of employment among the professional classes, many of whom would possess experience and training suited to the demands of this work. In such conditions the provision of a means of livelihood is by far the best method of avoiding distress, and therefore employment or work having a general and permanent value meets, to an exceptional degree, the necessities of the case. A subscription for the purpose has been started by the Architects' War Committee, but it is allocated to this profession only, and as it does not appear that a scheme so wide in its scope should be dealt with on these exclusive lines, it is hoped that the other professions will be induced to co-operate in the collection and distribution of a fund, which, having regard to the general utility of the work to be done, should also receive support from the nation as a whole.

Local supervision might be exercised by an honorary Committee of leading citizens who would employ, on certain definite lines, a professional staff, recommended to them by the various committees interested, for the purpose of procuring and tabulating such information as is comprehended in the civic survey.

It is suggested that the work should be grouped under the following headings:—

1. ARCHEOLOGICAL.

Comprising records of all sites and buildings of architectural or historic interest, with positions and particulars indicated on maps.

All existing information collated and deficiencies supplied. Suggestions for the use and preservation of buildings obsolete for their original purposes.

2. SOCIAL AND RECREATIVE.

The study of existing information. Position, character and areas of parks and recreation grounds, the extent to which they are used, and the location, density and general status of the inhabitants using them.

Public buildings such as libraries, baths, &c., on the same basis.

Private playing fields, golf links, &c., dealt with on similar lines.

National features of exceptional interest. Suggestions as to correlation of all these, neighbourhood, centres, &c.

3. EDUCATIONAL.

Study of existing statistics as to educational facilities and the local demands on them, diagrammatic indications of grade, attendance, and the operations of private and religious bodies.

4. HYGIENIC.

Existing statistics are here fairly complete. Study of these in relation to physiography and population density, with results shown graphically.

5. COMMERCE.

The indication of existing (and probable future) centres of employment, their character, the number of employees, the localities they occupy, average wages, &c.

6. TRAFFIC.

Railway, water, tramway and road facilities with the existing traffic. Capacity of each and probable future developments considered in relation to traffic.

7. VALUATION.

Graphic rendering of relative values of all land and buildings.

8. GENERAL.

Collection and classification of maps, illustrations and statistics of other towns, British or foreign, displaying similarities in their growth and circumstances.

The information gathered under these headings would be placed in graphic form on ordnance maps, thus giving facilities for comparison between the various factors, and forming a permanent record of present conditions and future possibilities. The whole would be arranged in a form suitable for publication if required, but the confidential character of some of the information would necessitate that exhibition or publication should be at the discretion of the Municipal Authorities. Subject to this proviso the results would naturally be gathered together to form a civic museum, open to the public, which is bound to exercise an important influence on the future of the city.

Professional Classes War Relief: Training and Emigration.

Among the projects of the Professional Classes War Relief Council, particulars of which were given in the last issue of the JOURNAL, none is of more vital importance than that with which the Training and Emigration Committee are charged. The war must affect very seriously the self-supporting woman of the professional classes. Not only will the existing disparity of the sexes in Great Britain be increased, but for some time to come there will be less demand for luxuries and superfluities, and therefore fewer posts for those who cater for them. At the same time there is in some of the Overseas Dominions not only a scarcity of women but an increasing number of openings for educated women, and it is of the greatest importance, from an Imperial point of view, that the best type of our womanhood should be sent to help build up the younger nations. It is essential for all women in the Dominions to have a knowledge of Housecraft, and there is no doubt that a large number of women and girls in the United Kingdom, whether they desire to go overseas or not, would benefit by a training in Domestic Science.

The Committee hope therefore during the coming winter to secure a practical training for a large number of girls and young women, which will be indispensable to them if they go overseas and useful to them if they remain at home. The groups the Committee will have to deal with will be (1) the adult daughters of professional men; (2) younger girls whose school life is cut short rather prematurely by lack of funds; (3) younger members of the artistic professions, already overcrowded; (4) trained workers whose professions are only temporarily disturbed by the war: maintenance or temporary work is needed for these. The idea is to give training in (a) domestic work, (b) nursing, (c) nursery nurses, (d) teaching, (e) dressmaking and

millinery, (f) gardening, poultry and bee-keeping, fruit farming, etc., (g) economics, library and secretarial work.

The subject of professional training for young men is also engaging the attention of the Council, who feel that it would be very detrimental to the interests of the country if large numbers of boys who on leaving school would normally have gone to the University or had a good professional training, are forced prematurely to become wage-earners. The Architectural Association has promised to grant some free studentships to suitable candidates nominated by the Relief Council, and other offers of a similar nature are anticipated.

To defray the expenses of training, where reduced fees are offered, a Bursary Fund will be started, and will be used to supplement grants in aid from the benevolent funds of the institutions or societies who may desire to obtain this form of help for members of their professions. Arrangements will be made for training in those professions where openings are known to exist either at home or in the Dominions overseas.

Funds are needed to enable the Relief Council to carry out their great and beneficent work. Subscriptions should be sent to the Treasurer, Professional Classes War Relief Council, 13 and 14 Prince's Gate, S.W.

M. Rodin's Gift to the Nation.

M. Rodin has presented to the British nation the remarkable collection of his sculptures which have recently been on view at the Victoria and Albert Museum. The gift includes twenty masterpieces representing all periods of the great sculptor's genius. Three months ago M. Rodin exhibited these works at the Duke of Westminster's house, and they were about to be returned to Paris when war broke out, and it was impossible to get them back. At the suggestion of Mr. Tweed, the sculptor, arrangements were then made for their storage and exhibition at South Kensington. Coming to London later and visiting the Museum, M. Rodin expressed his pleasure at the admirable way in which the sculptures were displayed, and he eventually made up his mind to offer them to the nation. "The English and the French," he said, "are brothers; your soldiers are fighting side by side with ours. As a little token of my admiration for your heroes, I have decided to present the collection to England." The majority of the works are in bronze, two are in white marble, and one, the artist's conception of Dante, in plaster. One of the studies of the head of the well-known statue of Balzac in Paris is in the collection, together with that remarkable example of M. Rodin's genius, "The Age of Bronze," the figure of a youth typifying the awakening of his intelligence. All the works are placed along with the first official recognition in England of the art of Rodin acquired by the Museum—the figure of John the Baptist sowing the seed of Christianity. Mr. Joseph Pease, M.P., President of the Board of Education, in acknowledging the gift on behalf of the Government, expressed the feeling of

us all when he said that M. Rodin's reason for making this magnificent gift would render it doubly precious in our eyes. His generosity has forged a new bond between the two nations. It will be a further opportunity for our artists to draw inspiration from the inexhaustible wealth of the French genius.

Robert Gordon Technical College, Aberdeen.

The Council have approved the appointment of Mr. H. V. Lanchester as External Examiner at the Robert Gordon Technical College, Aberdeen.

OBITUARY.

Mr. Samuel Wayland Kershaw, M.A., F.S.A., who died on the 9th inst., in his seventy-ninth year, was for eleven years (1868-80) Librarian of the R.I.B.A., and afterwards Curator of Lambeth Palace Library until 1910, when he retired. Mr. Kershaw was the youngest son of the Rev. John Kershaw, and was educated at King's College and Cambridge University. His publications include *Art Treasures of Lambeth Palace Library*, *Surrey Sketches in Olden Time*, *Protestant from France*, besides contributions to the Kent, Surrey, and other archæological societies.

Lieut. Philip W. R. Doll, 8th King's (Liverpool) Regiment, who was killed in action on or about 31st October, near Ypres, having been first reported as missing, was the fourth son of Mr. Charles Fitzroy Doll [F.]. Born in 1890, he was educated at Charterhouse and Sandhurst, obtaining his commission in 1909, and becoming lieutenant in 1912. A good all-round sportsman, he was in the Charterhouse cricket eleven, and also played for the Aldershot Command. At Sandhurst he represented the College at football, and later the Aldershot Command. At this year's Army Rifle Association Meeting he won Lord Roberts's prize with his machine-gun squad, and also other events.

THE EXAMINATIONS.

The Statutory Examination for Building Surveying.

An examination of candidates for the office of District Surveyor under the London Building Act, held by the Royal Institute pursuant to section 140 of the London Building Act 1894, took place on the 22nd and 23rd October. Five candidates were examined, and the following two passed and have been granted by the Council certificates of competency to act as district surveyors in London :—

HUNTER: JAMES DOUGLAS, F.S.I. [Licentiate], 39, Great Marlborough Street, W.

WARREN: HENRY GEORGE [A.], of 16, Queen Anne's Gate, Westminster.

On the recommendation of the Board of Archi-

tectural Education the Council have resolved to extend the time of the Examination as follows :—

The Written Examination on the first day.

The Graphic Examination on the second day.

The Oral Examination on the third day.

The next Examination takes place in October 1915.

The Final Examination: Problems in Design.

The designs submitted under Subject XVII. will be exhibited in the R.I.B.A. Galleries from 10 a.m. to 8 p.m. on Monday, Tuesday, and Wednesday, 30th November, and 1st and 2nd December.

COMPETITIONS.

Tuberculosis Hospital, Southend-on-Sea.

Members and Licentiates of the Royal Institute of British Architects must not take part in the above competition because the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.

By Order of the Council.

IAN MACALISTER, Secretary R.I.B.A.

20th November 1914.

MINUTES. II.

At the Second General Meeting (Ordinary) of the Session 1914-15, held Monday, 16th November 1914, at 8 p.m.—Present: Mr. Ernest Newton, A.R.A., President, in the Chair; 40 Fellows (including 10 members of the Council), 25 Associates (including 3 members of the Council), 8 Licentiates, 1 Hon. Associate, and numerous visitors—the Minutes of the Meeting held 2nd November were taken as read and signed as correct.

Mr. E. Guy Dawber, Hon. Secretary, announced the decease of the following:—Stockdale Harrison, of Leicester, elected Associate 1882, Fellow 1890; John Henry Arthur Phillips, Associate, elected 1899; Thomas Herbert Whittaker, Associate, elected 1909; Bailey Scott Murphy and John Preece, Licentiates; and Samuel Wayland Kershaw, late Curator of Lambeth Palace Library, and former Librarian of the R.I.B.A. (1868-1880)—whereupon a vote of condolence was passed to the relatives of the deceased gentlemen.

It was also resolved, that the Institute do record its sympathy with its esteemed Fellow, Mr. Fitzroy Doll, in the loss he has suffered by the death of his gallant son Lieutenant Philip W. R. Doll, of the 8th King's (Liverpool) Regiment, who was killed in action at Ypres recently, having been first reported as missing.

The Hon. Secretary read a letter from the Earl of Wemyss expressing his Lordship's deep appreciation of the Resolution of sympathy passed by the Institute at the death of his father, the Earl of Wemyss and March, Hon. Associate.

The Secretary announced the results of the October Statutory Examination.

The President announced that under the provisions of By-law 25 the Council had at their Meeting that afternoon passed a Resolution expelling Mr. Horace T. Bonner, Associate, from membership of the Royal Institute.

A Paper on THE FUTURE OF THE SURREY SIDE having been read by Mr. Paul Waterhouse [F.], a discussion ensued, and on the motion of Mr. Edwin T. Hall [F.], seconded by Colonel Hellard, R.E., a vote of thanks was passed to him by acclamation.

The proceedings closed at 10.10 p.m.



THE REBUILDING AND THE WORKMEN OF ST. PAUL'S CATHEDRAL FROM THE "ACCOUNTS."

By J. M. W. HALLEY [F.]

Essay submitted under the motto "Resurgam," awarded a Certificate of Honourable Mention in the Competition for the R.I.B.A. Essay Medal 1914.

A BUILDING as unique as St. Paul's Cathedral has a long bibliography of its own, and it may be asked if it is possible to add to it usefully, and not merely continue the ancient game of pouring water from one vessel into another—from *Parentalia* into this and into that. One source however, and that the most plentiful, has hardly been tapped, and it is from dipping into this that the following essay, on the rebuilding of St. Paul's, owes its existence. The subject has been so much overlaid in two centuries of writing that it is incumbent on any future historian of St. Paul's to go back to contemporary records for his information. Of these the most reliable, and, for the architect, the most interesting, are the actual "Accounts" of the rebuilding. Reading, impressed on the yellow leaves, the faded handwriting of two hundred years ago a vivid picture starts up before the mind's eye of men toiling and moiling in the shadow of great cliff-like walls, and raising upon them at last a vast dome—realising the idea of a single man.

In what unknown diaries, I wonder, is the story of the building of St. Paul's hidden away? Certainly some among the citizens of London whose daily business took them past the slow-growing walls must have been impressed, and must have made a note of it. Dynasties changed, half the life of the ordinary man was spent before St. Paul's, free from its scaffolding, stood in its beauty and might over London. That diarist, however, remains to be found who saw with his own eyes the struggling horses straining to move the great blocks of stone, the baulks of timber, from Paul's Wharf to the Churchyard; who saw the mighty stones of "Seven Tun or more" being rolled on pieces of elm to the hoisting places; who saw, finally, the tant ropes of the "capsterns" raising them into position in the cyclopean walls of St. Paul's. Yet for some five-and-thirty years the citizens of London must daily have witnessed such scenes.

Thirty and more years of building cannot be accounted for in a single book, and there are many volumes of the "Accounts" in which one can glean something of old manners of building. They are human, too, these volumes, and new names appear by the score to arouse curiosity in all who are interested in the history of architecture—names of carpenters, joiners, bricklayers, plasterers, of all that numerous army indeed whose collective activity was necessary to the re-edification of St. Paul's. They work there and pass and die before the work is finished, almost every one of them except Wren. The pages of these "Accounts" are still rough with the sand used to dry the ink which wrote out, in the then new "Italian hand," very legibly and beautifully many of the details of the great undertaking.

The long history of the three cathedrals dedicated to St. Paul is punctuated by several conflagrations, which damaged, or, as in two instances, completely destroyed the church. The fire which occurred in the reign of William the Conqueror, disastrous as it was, hardly concerns us, but the Great Fire of 1666 does, in so far as it gave Wren an opportunity to rebuild the cathedral after a new

fashion. It may not be amiss, before reverting to the contemporary record contained in the "Accounts," which date from a period shortly after the fire, to consider the state of architecture at the end of the seventeenth century. A system of architecture, the principles of which were borrowed from Italy, had by this time become the national English style. So much so, that for more than a hundred years afterwards it was impossible for builder or architect to conceive the design of a building that was not informed to its very essence by what has been called, for want of a better name, Palladianism. Yet although England had been preparing to adopt this new system since the time of Henry VIII., it was a plant of such slow growth that it did not reach its culmination till Wren contrived his wonderful dome and placed it beside the clouds. The new style did not arrive therefore *per saltum*, but by slow degrees, creeping first into the delicate ornaments of architecture, gradually changing the flat Tudor arch into a lintol or a true Roman arch, until, like the irresistible incoming tide, it had covered everything. This change could not be stayed, any more than man could be prevented from looking through the window, just opened to him, to where men and women walked in the sunshine unashamed. The mediæval world, geographically and spiritually, had suddenly expanded, its old rigid bournes had become mere marches between continents which stretched on every hand to infinity. Men looking with their new eyes saw men of the very stature of themselves, possessing their very attributes—and Shakespeare fixed them in his book for ever.

In reality the Renaissance meant a new mode of life, more lightsome and full of new amenities and delicacies—indeed, a new sanity of living. Architecture was inevitably affected, and by the time Wren came to build, it had gone through its tentative efforts and stood forth completely transformed. The old mediæval architects were empirics, men without science, who raised their towers and spires fearfully into the sky. The new race of architects were to be scholars and men of science; and in so far as architecture is susceptible of the impress of the individual, it was to be henceforward stamped by personality. From this time, for better or worse, architecture was to be as individual as any other work of art. Its aim, moreover, was to be purely æsthetic, and as such it was understood by Wren.

From the date of the Fire to the beginning of positive building operations there is a period of some seven and a half years, a period too long to be disregarded altogether, and yet one which has seldom been properly investigated. It was inevitable that some time should elapse before the rebuilding of St. Paul's came to be considered at all. Houses had to be built for the people, life had to become normal again before there could be any question of rebuilding either the cathedral or the City churches. Besides, St. Paul's, if a ruin, was still a mighty one, and appeared easily susceptible of repair even to the initiated. It was not until April 1668 that Sancroft, who was then Dean of St. Paul's, admitted that Wren had been right in wanting to rebuild from the beginning, and begged him to come to London. It is not known if Wren obeyed this summons. He was summoned again in July, and shortly after he took charge of the works of "Repairacone," as they are called.

This preliminary work continued until April 1674, when the "Account" was closed. It is evident that the rebuilding was to be considered as a separate matter, financed by a separate fund, for the preliminary works are summarised with the amount of money expended on each. Before the summary there is "A Briefe Abstract of the whole Accompts contained in the Booke (i.e., a book containing the Account) being for charges of work done preparatorie to the reedifieing of the Cathedrall Church of St. Paule in London with incidents thereunto from the first daie of October 1668 to the last day of Aprill 1674, being five Years and Seaven Months," which shows that the total amount expended was £8,592 8s. 8½d. This money was spent on work of diverse kinds, the most important of which were taking down the ruinous walls, chiefly at the east end and the tower, sorting and piling the old stones in heaps in the various yards around the church, clearing away rubbish, collecting and recasting the lead melted from the roofs.

Much of the shaken building still remained standing after the Fire, otherwise no attempt would

have been made to preserve it. Certain parts, however, had to be taken down, and bargains were made with workmen to do definite pieces of this work. In October 1668 Henry Russell received £30 "in part of his bargain for taking downe the High Tower of the Church as low as the Stools of the lower Windows." In the following month he received a further £20 on its completion.

Thomas Newton and John Simpson also made bargains for "taking downe the high Walls and pillars in the Old Choir next adjoyning to the high Tower Eastwards," and also "for takeing downe the topps of the high inside Walls in the North side of the Nave." It is unnecessary to follow all the details of this church-breaking, suffice it to say that "the pulling down the walls, being about 80 Feet high, and 5 Feet thick, was a great and troublesome Work; the Men stood above, and work'd them down with Pick axes, whilst Labourers below moved away the Materials that fell, and dispersed them into Heaps."*

Sometimes, however, much greater deliberation was used and temporary scaffolds were erected to facilitate this work of demolition. In the October-December "Account" of 1671 there is a statement which bears this out. It reads: "more Carpenters employed in Setting upp Scaffolds to the East end . . . as high as the topp of the Gable end thereof, and in making Trussells to use betwixt the Scaffolds for taking down the Walls the Pinnackles and the Rose Window there and in taking downe some pte of the Scaffolds againe after pte of the Wall and Pinnackles were taken downe."

In the words of *Parentalia*, Wren, "to gain Time, prevent much Expence and the endangering of Men's Lives," in the demolishing of the walls caused battering rams to be made. The first mention of such an engine occurs in the "Accounts" of January 1669, when carpenters are "making a Ram to beate down the great pillar in the West end of the Church and helping the Laborers to worke it." Later, in October-December, 1671, carpenters are "Employed in fitting a long Mast ffor a Ramm for the Smith to put on the Iron Work on the same." An iron spike weighing 28½ lbs. was fixed to the end of a mast, which was then fortified with bars of iron and ferrols. The ram was suspended level within a triangular-prop, and oscillated backwards and forwards by thirty labourers against the wall doomed to destruction. George Drew is the name of the smith who supplied all the iron for the rams, repairing them as they were damaged—for they were broken and made useless sometimes. In one of his accounts there is a charge also "for Iron worke for a great Leaver to poise up the great Pedestalls on the topp of the high Walls weigh Lxxvi lb. at iid, the working xiiis. viiid."†

To facilitate the removal of rubbish, from the demolition of the tower, a hole was broken through the west wall into the portico, to make a way for the carts. A quotation under the date of January 1669, shows the labourers at this and the like work. They are "carrieing away stones which were thrown down from the Steeple and the high inside walls of the old Quire into the little yard next above the little North doore, pileing and placeing the Stones in the Severall Yards, Breaking a doore way in the West end of the Church into the Portico, Raming down the great Pillers and wheeling away rubbish and carrieing Stones into the Portico after the Piller fell downe, to make a passage for the Carts to carry rubbish from the Steeple."

Month by month great quantities of rubbish were carted away "out of the yards . . of the Church leading the same through Newgate from there to fleete bridge (the passage at Ludgate being then stopt up, at xd. the Load." Sometimes this charge is reduced to 8d. a load. The rubbish was taken to "Fleet bridge, Pudle docke, Thames Streete and other places in the Citty," where it was, in all probability, shot into lighters and taken out to sea. It is interesting to find in the "Accounts" confirmation of some of the statements in *Parentalia*—the expedient of the ram is mentioned in some detail in the latter, so is the use of gunpowder, but in the wrong order. In *Parentalia* gunpowder comes first, whereas in reality it came last. In the "Account" for January—March 1672, can be read that carpenters are "cutting pieces of Tymber to make up the holes of ye pillers which were

* *Parentalia*, pt. 2, Sec. V., p. 140. (Ashbee Reprint.)

† This means that the iron was supplied by the Commissioners.

blowne up with Gunpowder on the North east, North west and Southwest Angles of the Great tower and two pillers more in the Nave of the Church."

Stephen Wren writes that a small charge of powder—eighteen pounds—was placed in the core of the north-west pillar, and that this was sufficient to cause the fall of the tower. Certainly, this statement can hardly be reconciled with the extract quoted above. Considerable quantities of powder were supplied and used during the greater part of 1672. The first "Account" reads: "Thomas Abrahall for 7 barrells of Corn powder, at 3£ 5s. p barrell—22£ 15s. Two halfe powder-barrells 3s., paid Charges carrying to St. Pauls 5s. 6d. xxiii£ iiii. vid."

The second and last Account charges for one barrel of this coarse-grained powder (corn powder) "and for 3£ of pistoll powder to fire the Train 3s." Fascinating as is the account given in *Parentalia*, it is hardly less so to find it more or less (generally less) confirmed in the "Accounts."

The gunpowder incident, as described by Stephen Wren,* is, however, a just and artistic heightening of fact, perhaps only less imaginative than Benvenuto Cellini's "Memoirs."

When so many workmen's names are given in the "Accounts," it is to be regretted that the name of the gunner who laid and fired the first trains of powder is not. Some carelessness or indifference on the part of the scribe has lost him whatever immortality there may be in the remembrance of a name. The hiatus has never been filled, so the "Account" reads:

"To — Gunner for several Journeys from the Tower to St. Pauls about blowing up the first piller wth Gun-powder 5s. And for placing the powder within the piller, laying the Trains and giving fire to the same 4 Guineapieces at 1£ 2s. 9d.† III£ XI.

The use of gunpowder was apparently discontinued because of the accident described in *Parentalia*, one stone being shot to the opposite side of the churchyard into a room where some women were sitting at work. Fortunately, no one was hurt. Confirmation of this accident is to be found in the "Accounts," where an item reads as follows:

"To John Longland Carpenter for new making a Belleony in the house of — Bookeseller which was broken in pieces by a great stone which was blown thither by Gun powder from the Wall in the morning prayer Chappell £1."

In these early "Accounts" a few glimpses may be obtained of Wren, before he had received his knighthood. Month by month his name appears side by side with that of W. Saneroft at the foot of the "Account," which is further certified by Phelps Auditor. In the "Account" from January to March 1670 appears the following:

"To Dr. Christopher Wren his Maj^{ties} Survey^r Generall and Survey^r alsoe of these workes for his directions in the worke and towards his paines in drawing and designeing a new Draught of the whole Church for the Joyners to make a Modell in Wainseott from the same and for his Attendance in givinge direcons to the Artificers during the time of makeing the same Modell C Guinea pieces in gold at £Cxi. xs.†

The model to which this refers is not the great model, but a previous one, costing only about a third the price of the former. It was completed between March and April, 1672. The item treating of it reads:

"To William Clear in full of Twoe Hundred Pounds and fiftene shillings for making a Modell of the Church in Wainseott. CL£ XV^s. And to him for his men for expedition money iiii£.†

The elaboration with which the models were made may be judged from this cost, which represents perhaps six or seven hundred pounds to-day. Clear's first payment (£50) in respect of this model was made between October and December 1669, so that considerably more than a year was consumed in its construction.

This model did not represent a grand enough idea, so Wren set about making a design—the so-called Model design, which is perhaps the noblest conception of a church in existence.

The "Accounts" of the actual rebuilding of St. Paul's Cathedral begin in May 1674; but, as I have

* *Parentalia*.

† The value of the guinea varied from time to time.

shown, work of a desultory nature had been going forward for several years, patching at the west end, clearing the site at the east and so on. Then the time was come to make a definite start on a new building. An "office of the works" and an "Appartement" for the Surveyor had been already installed in the Convocation house (the old Chapter House), where the building of the great model was nearing completion. Mr. Woodroof, the assistant surveyor, made drawings of "several peices of the Modell for the Joyners to work by," besides giving directions about other works. In 1673, on the granting of the "Commission for the new building the Church," the construction of this great model was undertaken. The design being settled, the first thing to be done was to make a base or foundation for it. This was the work by "William Clare Joyner," who charged £42 2s. 6d. "for makeing a Table and frame for the intended new Model of the Church to Stand upon." Clare also acted as foreman-joiner, putting in, between October 1673 and April 1674, one hundred and fifty days. The joiners' united time during this period was one thousand three hundred and seventy-six days and a half, which represents, £190 11s. 6d. In addition to the joiners' work there is masons' work to be accounted for—Joshua Marshal, of whom more hereafter, with two journeymen charge between October 1673 and March 1674 for "makeing Molds to cast Plaister upon for the Vaulting of the Model," 39s.; and William Beard, in April 1674, charges 40s. for "finishing the Molds and Casting Plaister for the Vaultings of ye Model." There are numerous incidental expenses, as: wainscot, "nayles and Irish Sprigs" and glue, "Ising-glass," a "haire sive to sift the Plaister of Paris for the casting of the Vaults of the Modell," "oile and Lard for the Moldings." The model was finished in September, when the last of the accounts for it was settled. Thirteen "Joyners" had been working at it during the previous three months, their united time equalling over nine hundred days. William Clare, the foreman, charging 3s. a day for himself and 2s. 6d. for the others, with the exception of James Miles, probably an apprentice, who has 1s. The total of their wages during this time amounted to something over £150. The elaboration with which this model was finished can best be gauged from the following quotations:—

For various ornamental parts of the model, such as the "76 Corinthian Pillasters at 3s. 9d. a piece", "ffor 10 round Capitalls at the west end at 9s. a peece", "ffor 27 flowers in the Arch and Suffiton at 6d. a piece", "ffor 4 neice heads at 5s. a peece", for these and innumerable other ornaments, Richard Clear charges 92l. 05s. 06d.

"Richard Bullock Turner for his work about the same" gets 20l. 00s. 02d. "John Grove for plastering the inside of the Dome and Lanthorn of the Modell, with the inside of part of the roof in the body thereof towards the west end, finding Workmanship time and hair, 01l. 00s. 00d."

At this date John Tillison was the clerk of the works, on whom devolved the payment of all "out of pocket" moneys and whose accounts are always very intimate. At the present juncture he charged "for 70 yards of Course Callico at 7d. p. yard for the Window Curtains in the Convocation house to keep the heat of the sun from the Modell" and "for 18 figures carv'd to stand upon the new Modell." The latter cost £3 12s. Unfortunately he does not give the name of the carver. In addition to these various expenses there is an item settled in June 1675 of £29 2s. "for gilding several parts about the Modell both within and without," and "cleansing and colouring stone and lead colour . . . some parts twice and the rest 3 times." The interest and pains shown by Wren in making this model, which cost about £600,* is typical of the infinite care he exercised in the smallest matter concerned with his work.

It is not unreasonable to believe, as is stated in *Parentalia*, that Wren "always seem'd to set a higher value on this Design, than any he had made before or since; as what was labour'd with more study and success, and . . . what he would have put in Execution with more Cheerfulness, and Satisfaction to himself than the latter." This is, of course, the design, the model of which still stands in the Cathedral, in a disgraceful state of dilapidation. In Longman's "The Three Churches dedicated to St. Paul," the illustration of the model shows the statues on the blocking course.

This design was approved by Charles II. in 1673 and the Commissioners were instructed to

* This sum must be multiplied by three or four to find the equivalent value to-day.

proceed with its building. Apparently a start was made; for in the five months, May-September 1674, carpenters were employed, among other things, "in making stakes and waiting upon the Surveyor for measuring and stakeing out the East part of the ground of the Church according to the New Modell." In furtherance of this work labourers were "Drudging wheeling and Carrying away Stones from ye foundations at the East End of the Church unto the several heaps in the yards." They also were wheeling earth from the east end "to the place intended for the inside of the Circumference of the Dome" and covering "the ground of the foundations of the old Walls and Pillars (after the same were digg'd up and removed) with good hard Rubbish to preserve ye ground from ye prejudice of the Raines and Winter Weather." In preparation for the masons, holes were dug "to let in great dry fatts for water tubbs to keep water for store to make up Mortar."

It is impossible to decide at what date Wren found his great plan—i.e., the "Model" plan—rejected. But when the labourers, in the months between October 1674 and June 1675, were "digging the foundations for the Masons to begin ye work upon the South side of the East End of the Church and part of the East End of the same," the new plan must have been decided upon. For these excavations are obviously for the foundations of the Cathedral we know to-day. Wren must therefore have anticipated the King's Warrant of June 1675, giving him permission to begin building the present structure, because in the following month the foundations of one half of the eastern wall and the south wall, as far west as the crossing, had been brought up to the ground level.

During the early stages of the rebuilding, two master-masons were employed, but as the work progressed—as the foundations extended westwards, others appeared on the scene, until there were as many as six, working at the same time. The original masons were Joshua Marshall and Thomas Strong, whose early accounts, made up in July 1675, give a very accurate idea of the scope of their respective operations. The account of the former reads: "To Joshua Marshall for Task of Masons Work by him done in the foundation of the south side of the Quire of the Cathedral Church of St. Paul in London (vizt) from the middle of the first Window Eastwards to the foundations of the Dome, including the South East Peer of the Same from the bottom of the foundation to the upper part of the plinth course, including Butterisses, Pillars, and holes filled up in the ground before the laying of the foundation walls att fourteen shillings and six pence the rod according to Contract." The value of this work was £142 7s. 1d., whilst Strong's, whose work extends "from the middle of the most Easterly Window of the South Isle and along the East End to the middle of the half Circle"—i.e., the apse, amounted to £76 18s. 10½d.

It may be said here that this system of Masons' Contracts obtained until the building was finished. The entire ground plan was in a few years to be divided into eight unequal parts, and let to separate master-masons, in contracts of a few feet at a time. And it is from a perusal of the Masons' Accounts that the progress of the work can best be estimated at any given date. This system of contracts was, however, only practised by the Masons; in the other trades, and sometimes in the Masons' also, men were engaged and paid by "Day work" by the Clerk of the Works. As a rule none of the trades supplied materials—the stone, timber, bricks, lead, &c., being supplied by the Commissioners.

In August 1675 work was charged against the famous "North-east Corner," but I can find nothing in the "Accounts" which would confirm the circumstantial description of the founding of this Corner given in *Parentalia*.* Indeed, the entire passage in this widely quoted book dealing with the foundations, appears to be nothing but a tissue of misstatement. For example, it is stated that "he," Wren, "began to lay the foundation from the West-end," whereas the "Accounts" distinctly state that they were begun at the east. Again the depth of 40 feet, through which the Surveyor is said to have sunk a pit to the firm sea-beach is grossly exaggerated, as it is only some 20 feet between the layer of loam on which the Cathedral stands, to the London clay.

* Mr. Mervyn Macartney stated recently at the Society of Antiquaries that he had examined this corner, thrusting out

a crowbar, from an excavation, into it, without meeting anything in the shape of a pier of masonry.

That ingenious device of Wren's—namely, the raised platform from which by means of perpendiculars he set out the places to be excavated below—seems also to be an invention of the author of *Parentalia*, for there is no item in the "Accounts," which, it may be stated, are full of detail, that could by any elasticity of interpretation be made to agree to that description. Besides, such an expedient would be unnecessary as the east part of the site was cleared before the foundations were put in.

Again, according to *Parentalia*, Wren had reached the extreme north-east angle with his foundations when he "fell upon a Pit, where all the Pot-earth has been robb'd by the Potters of old Time." Under this corner he is said to have built a pier of masonry 10 feet square, from the firm beach 40 feet below the pot-earth, to within 15 feet of the ground, where he turned a short arch under ground to the foundations he had already put in. Now the description in the "Accounts" may not be so explicit as the fascinating narrative given in *Parentalia*, but it has the advantage of being a statement of fact and as such may be quoted at length. It reads as follows:—

To Thomas Strong for Masons Work by him done in the foundations being from the Middle of the halfe circle East to the North east Corner from thence along upon the North Wall to ye middle of the first window North, beginning from the bottom of the foundations to the upper part of the Plinth Course, including the Wall, Butteresses, Pillars from the Gravell to the top of the bed of Loam to the upper part of the Plinth Course, for Workmanship at the rate of fourteen shillings and Sixpence a rodd by contract.

Recent excavation has established the fact that the layer of loam or Potters'-clay has been removed along the entire wall at the east end and that the foundations rest on gravel at depths, taken from the level of the churchyard, which vary from 21 feet 2 inches at the south-east to 25 feet 10 inches at the north-east. The normal depth is 16 feet, which is the level of the top of the bed of loam on which the foundations, as a rule, rest.*

Longman writes that "the first stone of the new Cathedral was laid at the South East Corner of the Choir by Mr. Strong and the second by Mr. Longland on June 21, 1675." Some function may have taken place at this date to celebrate the reception of the King's order to begin building at last, nine years after the destruction of the older Cathedral, but the foundations of this South-eastern portion were almost finished by this time and the first stone consequently laid some time previously. There is a John Longland employed at the time as master-carpenter, who may be the individual referred to. This statement is taken by Longman from a manuscript description of the rebuilding written by Thomas Bateman, who was Clerk of the Works from 1690. His account has not therefore the authority of an eye-witness.

In July 1675 an army of men entered the arena of St. Paul's to labour for many long years to give material form to an idea which originated in the brain of one man. Mortar-men, Druggmen and Diggers, Barrowmen and Labourers, made the scene a busy one, as they cleared the site or prepared the way for the skilled workmen. From May to September in the previous year one thousand four hundred and eighty-eight loads of rubbish were carted away; a continual stream of carts must have passed up and down to Paul's Wharf occupied with this work for years. The Carpenters in August 1675 made "a Conveniency of Boards and Timber to shoot Rubbish into ye Lighters at Pauls Wharf."

While the building was growing rapidly at the east end, the work of demolition went on apace. The old north and south gables and the walls of St. Gregory's Church were being taken down at this time, not without danger, as the following item in the "Accounts" proves: "To 1 Coroner, 2 Beadles, summoning 2 Juries to enquire of the death of William Bancks and Richard Walker, Coffins and other incidentall Charges 4l 11s. 8d." The masonry, as I have shown above, was battered down with a ram as stated in *Parentalia*, but it was also taken down much more deliberately, for in November 1675 Masons were cutting "holes into ye wall of the North Gable end of the Church for ye Putlogs of the Scaffolds there." Then the stone was loosened and tumbled down, not always too carefully however, because in January of the following year Thomas Strong had to repair the "rubble Wall of the North

* Article in the *Times*, February 1, 1913, by the Surveyor to the Dean and Chapter, Mr. Mervyn Macartney.

eastmost corner of the North Cross Isle, which was beaten by the falling of the Stones in the taking down the North gable."

The work of demolition went on for many years, moving westwards to make room for the new work. An item dated March 1687 suggests that the last of the old building had almost disappeared. Labourers at that time "were taking down part of the Tower on the North side of the West end of the Church, and all the old Railes and Banisters which stood over the Collumnes of the Portico there, seperating the great stones and Ruble stones from the Rubbish." The Convocation house still remained to be taken down, and this was done about August 1690 by John Parker, Symon Satchell, Thomas Lofthouse, John Hoy, Richard Adams and John Scott, who were paid at the rate of 12*d.* a yard. Since the beginning of the work the Surveyor's offices and "Tracery room" and the "Model room" had occupied this building, and these had now to be transferred into the Cathedral.

When Wren began to build St. Paul's he had a veritable quarry at his feet. The Great Fire had destroyed the old building, but it had not made the stone of which it was built useless, and Wren used it extensively in the foundations and for the rubble cores of his walls. A common item of the "Accounts" shows labourers employed "in sorting and breaking of great old burnt Stones . . . and wheeling them for Rubble to the Masons' work next adjoyning." It was not until May 1676 that Portland stone began to arrive at St. Paul's; after that, month by month, it was delivered in great quantities. The supply must always have been inadequate however, because Wren was glad to get it from any quarry that had an outlet to the sea. It must be remembered that he was entirely dependent on water carriage, and that his ships were dependent on fair winds and fine weather. How often must the storms of winter, raging round the south coast, have delayed his vessels coming from Portland! But there was one quarry the continual output of which was not contingent on so many favourable conditions. This was Burford, owned by the family of the Stronges, three members of whom, from first to last, were master-masons of considerable portions of St. Paul's. In summer the stone-laden barges could float easily down the placid waters of the Thames from Oxfordshire to Paul's Wharf, and winter would not interfere with this traffic. Consequently we find that great quantities of this stone were used in the rebuilding, although never in the external walls. But in addition to this, stone was brought round to London in ships from Beer in Devonshire, from Kent and even from Normandy.

Several journeys to Portland are noted in the "Accounts," the most interesting of which is that where Wren himself is the principal figure. In June 1696 "Mr. John Toby Wharfinger at Portland" charged £4 16*s.* for a journey to London, "occasioned by the slideing of the Ways from the Quarries at Portland."

In consequence of this accident Wren had to go to Portland, and, being by this time over sixty years of age, he went by coach, as appears by the account which follows:—

	<i>l.</i>	<i>s.</i>	<i>d.</i>
To Sir Chr. Wren being allowed for his trouble and paines in a Journey to Portland and			
Surveying and directing at the Quarries there 12 days	30	00	00
Mr. Strong's assistance about ye same 12 days	12	00	00
To ditto. for Horse hire	00	17	06
Mr. Hawksmoor's Assistance about ye same 12 days	12	00	00
Henry Wood's Assistance about ye same 12 days	06	00	00
for Coachhire and Expenses of the whole Journey as p. Bill of particulars appears	50	07	05
Given to ye Workmen in ye Island a guinea	01	02	00

A journey into Portland in the seventeenth century would occupy five days, riding or driving at the rate of twenty-six miles a day. The route as it is set out in a contemporary "road book" passes through Basingstoke, Sutton, Stockbridge, Broughton, Taunton, Cranborn, Blandford, Dorchester and Weymouth. Quite apart from the length of time taken up by the journey, it must always have been formidable to the bones of all who travelled on wheels: for it must be remembered that this was before the passing of the Turnpike Act (1763), and the condition of the roads was dreadful.

In *Parentalia* it is said that "all the most eminent Masons of England were of Opinion, that Stones of the largest scantlings were there (Portland) to be found, or no where." Two of these masons must surely have been Joshua Marshall and Thomas Strong! Joshua was the son of Edward Marshall, a master-mason to Charles I. and Master of the Company of Masons in 1650. He must have been a man of considerable wealth, as he made a loan of £300 to the Company in 1665, receiving as security a lease of their Hall for fifty-one years. This money was raised as part of the £100,000 which the City of London loaned to the King toward the expenses of the Dutch War. Temple Bar was built by Joshua Marshall and Edward Marshall in 1675. The former was the master-mason at St. Paul's, but whether the latter is his father or brother it is impossible to decide. Joshua Marshall became Master of the Company of Masons in 1670, and perhaps again in 1677, if he is the Mr. Marshall whose name is recorded. The Stronges were not Londoners. Valentine Strong, whose son Thomas came to London, was a mason and quarry owner of Taynton, near Burford. The son built part of Trinity College, Oxford, and there made the acquaintance of Mr. Christopher Wren; and when artificers were invited, the year after the Fire, to help to rebuild London, Thomas Strong came, and brought up with him a number of workmen—a step rendered easy by the passing of a statute which gave permission for seven years to workmen not free of the Companies connected with the building trade to work anywhere within the City. Such a man as Thomas Strong, however, having considerable wealth, was enjoined by the Lord Mayor to take up the freedom of the Company of Masons.

In the quarterage book of the Masons' Company the following entry appears:—

Thomas Strong made free (by redemption by an order of ye Court of Aldermen dated ye 8th day of September last) ye 15th of September, 1670, and in ye 22nd year of King Charles ye Second, and paid £1 3s. 2d.*

He was chosen one of the Stewards in the same year, paying a fine of £6. His father died in 1662, and was buried in Fairford Church, Gloucestershire. His epitaph is so curious that it is worth being quoted at length. It reads:—

Here's one that was an able workman long,
Who divers houses built, both fair and Strong;
Though Strong he was, a Stronger came than he
And robb'd him of his life and fame, you see:
Moving an old house a new one for to rear,
Death met him by the way and laid him here.

Neither Marshall nor Strong lived long after they had begun the great undertaking of the rebuilding of St. Paul's—the former died in 1678 and the latter in 1681.

When Edward Pearce, the mason who built St. Clement Dane's, took over the work on the south side of the Cathedral from Marshall's executors it had reached the height of "the Astragall of the small Pilasters," and the south portico was up to the level of the church floor. On the north side the work was carried on by Jasper Lathom as far as the middle of the north portico. Meanwhile work was proceeding farther west. Thomas Strong was building the north-west vestry and the two legs of the dome adjoining it and the half of the portico abutting against Jasper Lathom's work. He had also laid the foundations of the wall of the nave "from the middle of the North window next ye North West Vestry . . . to the middle of ye third Window on the North side." At the east end Thomas Strong's work was as high as the springing of the arches of the windows when he died. Edward Strong succeeded his brother and continued the building of the east end with the returns north and south to the centres of the first windows in the choir aisles, and from the middle of the north portico to the middle of the last window in the north nave aisle. In 1687 he carried his work as far as the middle of the window in St. Dunstan's Chapel. This is the extent of Strong's work on the main building, and although it is a larger portion than that assigned to any other mason, it effectually exposes the fallacy that he was the one and only master-builder. As I have shown, he did not begin

* *The Hole Craft and Fellowship of Masons*, by Edward Conder, Junior.

											l.	s.	d.
217 days of Masons at 2s. 6d.	...	...	...	...	...	...	...	...	...	...	37	02	00
30 days of Labourers at 1s. 6d.	...	...	...	...	...	...	...	...	...	...	01	10	00

In the Memoirs of the Strong Family it is stated that the last stone on the top of the lantern was laid by Edward Strong on 26th October 1708. *Parentalia* gives the date as two years later, but the former statement is borne out by the "Accounts." In October Edward Strong charged

	l.	s.	d.
For 163 Days $\frac{1}{2}$ of Masons cramping the Attick of the Lantern letting in ye Windows in the Crown of the Cone, letting in sev ^l Bolts and a Chain under ye Attick Cornice Tooming down the Crown of the Cone etc. at 2s. 6d. per day	20	08	09
For Labourers 24 days at 1s. 6d.	01	10	00

Although Strong makes charges in the following months, it is not for building, but "for cleaning the Work stained by ye Timber in the Lantern repairing what was accidentally damaged in raising Materials." This is in November, when it would seem from the above extract the scaffolding was actually being struck.

If the erection of the Ball and Cross can be taken to signify the completion of the building, then it was finished by the end of the year 1708. In September carpenters were "frameing and raising the Cap for ye Lanthorn," and in November the plumbers' account is settled for the lead of the cupola of the lantern.

The building thus being finished—for the south-west tower was completed by William Kempster and the north-west by Samuel ffulks in 1707—it must not be thought that the masons had come to an end of their work. Repairs had to be undertaken on an elaborate scale, the fluting of the columns and pilasters had to be cut and the floor of the church paved. So they worked on for several years longer.

The last important work to be undertaken was the erecting of the balustrade in 1718 by Christopher Cass, mason, whose labour amounts to £2,369 18s. ; in addition to which he received £25 "as a gratuity for his Care and Expedition in performing his Contract of the Ballustrade round the Church as p. Order of the Commissioners."* This was the year in which Wren was dismissed from his position as surveyor. The works, however, were almost finished. Sir James Thornhill continued painting the dome until 1720, and Francis Bird was carving his fifteen statues of saints and apostles for the west, north, and south sides of the church until 1724.

A curious feature of the masons' contracts is the fact that they included the carving within their limits of work. Particular pieces were executed by Grinling Gibbons, Caius Cibber, Jonathan Maine, and Francis Bird, but all these men must have been able to find skilful carvers to carry on their contracts. Indeed at the time there must have been admirable schools of native craftsmen, which, it is perfectly certain, these former did nothing to found. The names of these assistants do not appear, nor have we any means of knowing what carvers were directly employed by the masons.

In no branch of art was the seventeenth century more accomplished and prolific than in that dedicated to the service of the dead. There is hardly a church in England that is not the depository of some fine tomb. Many of them are masterpieces of the sculptor's craft, many are the work of patient lapidaries, but they all, the humble memorial as well as the great, have power to move us by the quality of their art. A traditional excellence is part of their contexture. The authors, for the great part anonymous, are the descendants of the Gothic carvers and stone-cutters. Numberless memorials perished in the Great Fire of 1666, and although London is singularly rich in this form of art, few belong to a date anterior to the Fire. Nicholas Stone's figure of Dr. Donne is the only memorial in old St. Paul's that escaped the dreadful conflagration. Very little is known of the sculptors of the

* The majority of the masons of St. Paul's were Masters of the Masons' Company. J. Marshall was Master in 1670, Edward Strong in 1696, Thomas Wise in 1681, Thomas Wise, jun., in 1698, Thomas Hill 1699, John Thompson 1690, Christopher Kempster 1691, Ephraim Beauchamp 1701, William Kempster

1705, Edward Strong, jun., 1718, and Christopher Case 1725. Jasper Lathom was a Warden in 1689. I have been unable to find whether the others, Samuel flukes, Edward Pearce, and Nathaniel Rawlins, had any connection with the Company. They may have belonged to provincial companies.

Renaissance tombs. According to Stow, "The Company called by the name of *Marblers*, for their excellent knowledge and skill in the Art of Insculpting personages for Tombs, Gravestones and Monuments in Churches, and elsewhere in Religious places: their antiquity, and what respect they have carried, is unknowne to me, nor can I find them to bee incorporated, but hold some friendship with the *Masons*, and are thought to be esteemed among them in Fellowship." It appears, then, that at the time Stow wrote, the *Marblers* had ceased to exist, if they had not become amalgamated with the *Masons' Company*. There can be little doubt that this is what happened, for Nicholas Stone, who was sculptor as well as mason, became Master of the *Masons' Company* in 1633-4. The Marshalls, Edward and Joshua (both Masters of the Company), succeeded Stone as Master-masons to Charles II. Edward Marshall carried on business as a stone-cutter or statuary mason in Fetter Lane. Some of his works in sculpture include the monuments to William, Earl of Devonshire, and his Countess, at Derby; Sir Robert Backham, at Tottenham; Sir Dudley Biggs, at Chatham; and the family tomb of the Cutts, at Swaveley, in Cambridgeshire.* Joshua Marshall succeeded to his father's business in 1675, and, as I have shown above, was one of the first masons to be employed at the rebuilding of St. Paul's Cathedral. It may be mentioned again that he was the contractor for the erection of London Monuments on Temple Bar, but in neither case was he the carver.† Gabriel Cibber was employed on the first, and described as sculptor-mason, while Bushnell was the carver of the second. It does not follow, however, that Marshall was not a statuary like his father. Mr. Beresford Chancellor suggests that he executed the pedestal of the monument of Charles I. at Charing Cross.

It is a curious fact, moreover, that several others among the masons of St. Paul's are known to have been sculptors, and the close relationship between the *Marblers* and the *Masons*—being in effect one—would certainly tend to make the distinction between the two crafts very slight. Edward Pearce (who, besides working at St. Paul's, built St. Clement Dane's for Wren) must have been a carver of some note, as he executed statues of Edward III. and Sir Thomas Gresham for the Royal Exchange, Sir William Walworth for Fishmongers' Hall, and busts of Wren and Newton for the Bodleian at Oxford. His most important work is the monument to Sir William Maynard, in Little Easton Church, Essex.

Latham, another St. Paul's mason, is said to have been the author, in conjunction with one Bonne, of a monument to Archbishop Sheldon in Croydon Church. Latham is referred to as the City architect in connection with this tomb.‡

However it was done, the carving was begun almost simultaneously with the building and progressed with it, as will be seen by an item in the account of Joshua Marshall's dated 1677

ffor Workmanship and Carveing of 3 great Keystones and their Curbs in the Brick Arches, being carved wth water flowers and revailed at 50s. p piece, 07l. 10s. 00d. ffor 5 lesser Keystones and their Curbs in ye side Isles carved as above at 35s. each 08l. 15s. 00d.

These keystones occur in the crowns of the vaults in the crypt and appear to be admirably done, so far as one can judge in the dim light. In the centre of the vault, where it turns into the apse, is a great shell which, coming within the sphere of Thomas Strong's work, was carved by him. His account reads, "ffor Workmanship and Carveing of one great Escallop with its Curb in the Vaulting of Brick at ye east end, 08l. 00s. 00d." This procedure obtains to the end. The carving of the capitols, "ffestoones," "Cherubims," "Pieces of Drapery and Lawrill," "Scrowles," and "Cartouches," were all included in the masons' contracts. It is not until June 1694 that Grinling Gibbons' name appears in the "Accounts," when he charged £128 "ffor carving the Severall Ornam^{ts} of 4 Spandrills in the Leggs of the great Dome at 32l. each Spandrill." By September he had carved eight festoons at the east end of the church, and in December he charged for "11 ffestoones and other ornaments under the Outside Windows at ye east end at 13l. p peece," and in January 1694 seven more at the same price.

(To be continued.)

* *The Hole Craft and Fellowship of Masons.*

† *Ibid.*

‡ *Lives of the British Sculptors*, Beresford Chancellor.

SENLIS AFTER THE GERMAN VISITATION.

By EDWARD WARREN, F.S.A. [F.].



PARIS, no longer superficially gay, no longer a city of glitter and cheerful noise, has at this moment, to a quiet observer, attractions of an unwonted order, and appeals of a deeper and wider range perhaps than the much admired capital we have known and liked so well of old. The beauty of her buildings, the grandeur of her garden spaces, the splendour of her river with its quays and bridges, remain to her of course, and the autumn sunshine still falls radiantly on her fair façades and gilded domes; but she is serious and sad, tranquil in her courage and her patient endurance, like the nation she represents. Her traffic on foot and wheel is greatly diminished, young men and even soldiers are conspicuously absent from her streets. Such uniforms as appear are mostly those of "infirmiers," and the motor wagons of the Croix Rouge replace the thunderous 'buses of normal times. The Red Cross, indeed, is everywhere. Several great hotels, closed to the usual order of visitors, display this symbol of invitation to those more honoured guests, the wounded sons of France or of France's friends, fresh from the northern battlefields.

The blue capote and red trousers, however, are not quite absent, and alert and cheery-looking half companies and squads swing over the bridges or tramp down the Rue de Rivoli, while little knots of British ambulance men, or strolling convalescents from the

hospitals, look on with friendly interest, comfortably clad in their unbecoming khaki.

The blankly shuttered fronts of many shops and restaurants tell their tale of absent proprietors or absent customers, but a gay and almost festal touch is imparted to every street by the innumerable flags of France and the Allies.

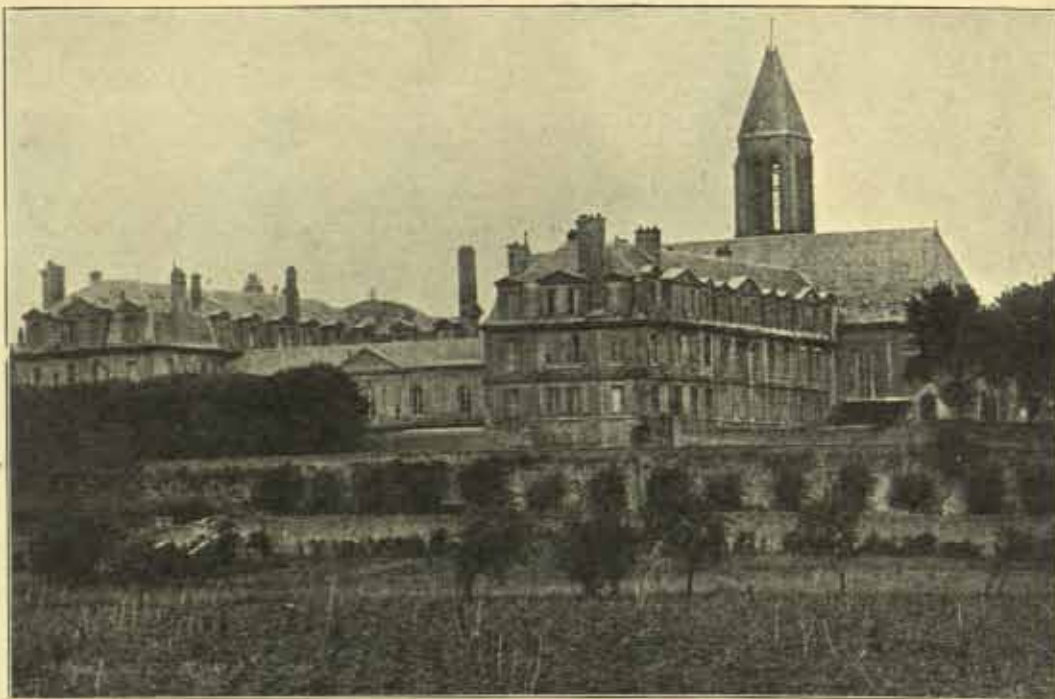
Unusual displays of picture postcards, all more or less concerned with the war, spread over blank wall spaces, and the selling of newspapers is only a little less active and demonstrative than in London, while at privileged corners hawkers have established military toy stalls, where brilliant little leaden armies represent the Allies, and batteries of diminutive "75's" complete with limbers, caissons and teams, excite the envy of small would-be gunners. The trams still run along the quays and through some of the boulevards and avenues. Motor-cabs, and the well-known little "Victorias" of our youth, with their small white or grey horses, still ply in adequate numbers. The suburban trains run with diminished frequency and creep to and from their extramural termini, and will carry you even to such scenes of recent invasion and outrage as Chantilly and Senlis.

A recent and splendid November Sunday, of cloudless blue and gold, lured me, with the added temptation of French companionship, to Senlis. The cheer-

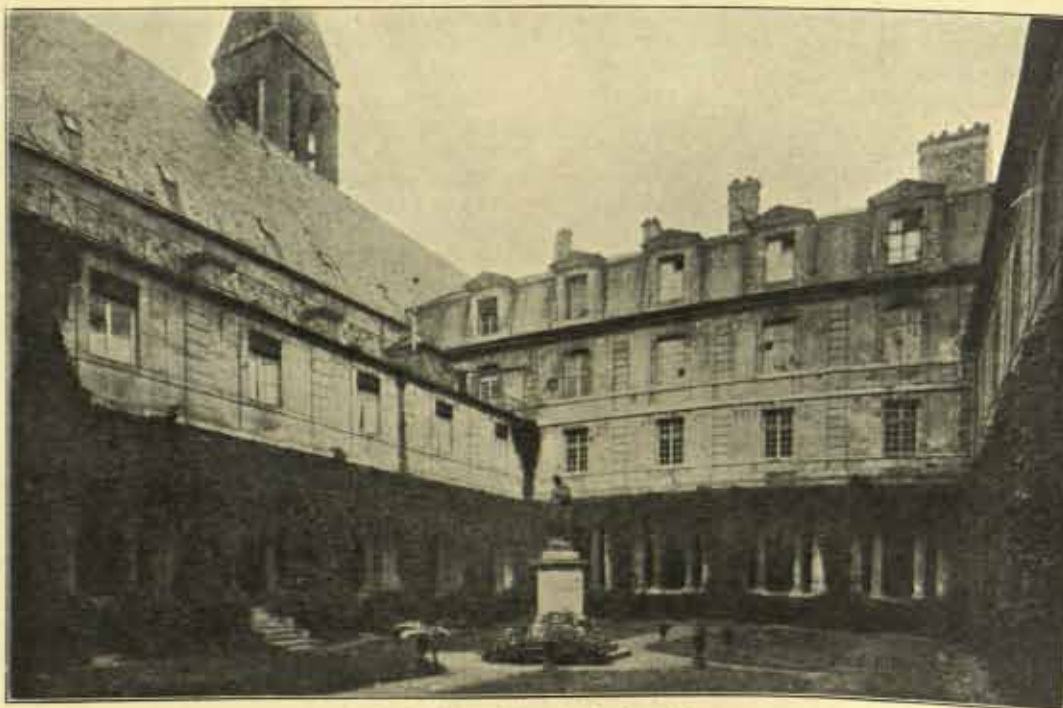
fully crowded train and the prosaically peaceful outlook from its windows showed no sign of war, and but for the newspaper on one's knee and an occasional glimpse of a picket or a bridge sentry with gleaming

bayonet, there was nothing to remind one that war, dire and awful, was actually raging less than an hour's journey to the northward.

It was thus with something of a shock that we



Collège St. Vincent



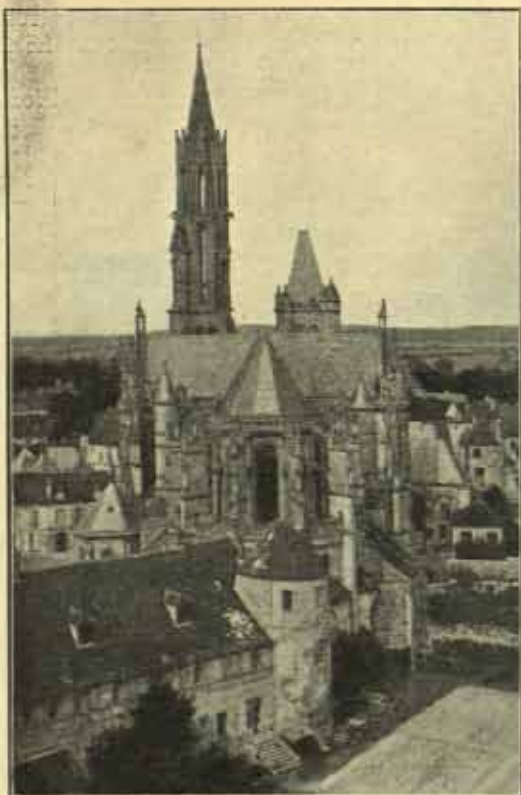
Collège St. Vincent: Quadrangle

gazed at the charred and twisted skeleton of the little station as we slowed into Senlis. The blithe volubility of the Sunday crowd was a little stilled for the moments of exit from this sorry heap of ruin, to be

resumed with less volume by the groups that strolled away towards the tree-girt little town and the tall attenuated spire of the Cathedral.

For a few hundred yards there was no repetition of





Cathedral from the East



Cathedral from South-East.



South Transept.



College St. Vincent: Entrance Gateway.

this dismal reminder that a few weeks ago this typical and beautiful little French town had been for a couple of days at the mercy, such as that is, of the invader. Nothing but smart and prosperous-looking little cottages and villas and their gardens. Then, all of a sudden, as we turned into the Rue de la République, the abomination of desolation presented itself in smashed and burnt houses and shops, one after the other, along one side of the way, at first, then on the other, then on both. Ruined, roofless shells, with empty door and window openings, charred beams and twisted ironwork fallen upon heaps of brick and calcined stone. Here was a mill with the clear stream running below its motionless wheel, past a trim and pretty little garden still gay with flowers and flowering shrubs; behind this the fine substantial house of the miller, a charred and roofless ruin completely burnt out. Further on, a charming old house half-smashed by shells, the full impact of which had been felt by its neighbour over the way, now a mere formless heap of rubbish. A little lower down, the fine house and garden of "feu Monsieur le Maire," wantonly murdered with some ten, we were told, of the leading inhabitants. It is evident that most of the havoc is the result of careful and deliberate incendiarism, not of bombardment. As we looked at the dismal scene of wreckage, a sad and kindly old gentleman came up to inform our ignorance. He had seen the Germans at work, composedly breaking a ground-floor window pane, throwing in a petrol bomb, watching a moment to see that it "took," and passing on to the next selected victim, with the method and deliberation of postmen leaving letters. The excuse for German murder and arson was the usual one, the inhabitants had fired on the troops, whereas the only firing done, said our friend, was by a handful of Senegalais soldiers, who fired a few shots outside the town, "comme de droit."

At the barracks further down the street, however, the long low yellow-washed buildings are spattered with shrapnel bullets, and one of its sturdy gate piers shattered by a shell. A knot of dapper officers, splendidly mounted, and wearing the light-blue and silver, with scarlet breeches and kepis of the Chasseurs à cheval, clattered in incongruously as we viewed these vestiges of war. But returning uphill to the winding and narrow old streets near the Cathedral we found a war-worn, bronzed, and bearded little group of infantrymen, cheery, gentle and courteous in their shabby stained blue overcoats and muddy boots, smoking contentedly beneath the rude black bust of Henry of Navarre in its niche, outside the door of the Town Hall. A pretty little girl of six or so offered us an ugly fragment of a shell in her chubby pink hand—"Quatre sous, M'sieur, faut aller loin pour chercher." "Et toi," we asked, "tu a vu les Allemands?" Eh bien, comment sont-ils; ils sont gentils?" "Oh! non, M'sieur; sont pas gentils, sont méchants."

In the charming high-walled lanes close to the Cathedral, there are very few instances of destruction, and the beautiful building itself, small for a cathedral, but of respectable size for a church, has, in spite of newspaper accounts, suffered almost not at all. The tall narrow 13th century south-west tower, with its thin detached shafts and attenuated spire, is practically intact. A little of the traceried parapet between the two west towers is smashed, a gargoyle has been lopped like a carrot, a pinnacle or two truncated, and there are two holes in the outer roof. Inside there is no sign of war or trace of demolition. The vivid and deplorable modern glass of the windows is intact, one is tempted to say unluckily so. The lofty 15th century transepts, and their elaborate doorways, owe none of their slight dilapidations to recent war, but perhaps to the Revolution. No more harm has been done by the Germans to this interesting and charming little cathedral than can be put right for three or four hundred pounds. Outside amidst the clustering houses it is different, and it is difficult to understand how such complete ruin can have been dealt to the Rue Bellon, a little street close to the conspicuous church, and to the Carréfour de la Licorne without more damage to that structure. The cause may have been inaccurate aim, but the two fine desecrated churches of St. Frambourg and St. Pierre have also escaped, which looks like discrimination.

The fine Collège of St. Vincent, a Jesuit establishment which retains the lofty 13th century tower and the Chapel of the ancient Abbaye, on whose site it stands, is intact with its incongruously picturesque Louis Quatorze façade, and its quiet cloistered quadrangle, which reminds one of a Cambridge Court with a little added "style." Chalked on a doorway near the College we came, almost with a shock, upon a German inscription, well remembered from the newspaper accounts of two months ago, praying good folks to spare this house, a prayer happily granted. As we inspected this a sudden droning buzz became manifest aloft, and brought people scurrying into the street, as a soaring monoplane whirled over us against the blue sky. A Taube? No! a French machine, for there are the rings of red, white and blue beneath the planes.

Senlis has still, as we can testify, a smart and thriving inn, where every reasonable want is promptly and excellently supplied. Its children play gaily at their little hopping dancing games in the narrow streets, while their elders chatter socially upon their doorsteps. The streets, and there are happily many, which are quite untouched, are just the pleasant informal old ways of a prosperous and charming old French town, gay with signs, the little glistening brass basin of the barber and the red cigar of the "débit de tabac." Senlis is still herself, and will soon, we trust, be smiling again as radiantly as of old.

UNIVERSITY OF SHEFFIELD COLLECTION OF GEORGE DEVEY'S DRAWINGS.

By W. S. PURCHON, M.A. [A.].

IT may first be of some slight interest to put on record the manner in which this charming and interesting collection came to Sheffield.

In August last Mr. Arthur Keen, a member of the Board of Architectural Education, asked me if I would care to have some of Devey's sketches, as Mr. James Williams, Devey's partner, was anxious to dispose of them to someone who would be able to make good use of them. I naturally informed him that if I received the drawings I would guarantee that they would not only be useful to me and to my students, but that they would be highly appreciated by all in Sheffield to whom architecture means something more than a somewhat precarious method of making a living. I also promised that the drawings would be given a permanent home where they would be carefully preserved. The best method of carrying out the latter promise appeared to be that of presenting them to the University Library, and this step has therefore been taken.

Highly as these drawings of Devey's have been appreciated by those to whom I have shown them, it occurs to me that there may be some who will think them so slight and trifling as to be of little moment. In justice to Devey it must be pointed out that these drawings we have received are not the pick of his work, as a large collection of his sketches was first sent to the R.I.B.A., but it seems to me that the Sheffield Collection is not only a valuable record of architectural activity at a most interesting period in the development of the art in England, but it is clearly the work of a man who was an artist to his finger tips and who thoroughly loved his work. Even the slightest of the sketches we have received is full of life and charm.

GEORGE DEVEY.

George Devey was born in 1820 and died in 1886. He is stated to have studied under the artists John Sell Cotman and J. D. Harding, and doubtless to these early studies he owed, in large measure, his extraordinary facility with pencil, pen, and brush. He was articled to a Mr. Little, a surveyor, and Devey and a fellow pupil, Stone (the father of Mr. Percy Stone, architect), travelled in Italy and Greece making many charming sketches.

Devey started practice in the 'forties, and was elected a Fellow of the R.I.B.A. in 1856. His first work of importance seems to have been the restoration of Penshurst Place in 1851. About this time architecture in England was almost entirely frigidly cold Classic or almost equally cold Gothic. Devey loved the work of the Middle Ages, but he was one of the first of the nineteenth-century architects to perceive the charm of the work of our early Renaissance designers and the fact that a freer type

of design might possibly be more suitable to the requirements of his time than copies of the work of either the Greek or Gothic period.

Devey was also a lover of the delightful cottages which are to be found in so many of our English villages. Early in his career he was a master of the design of lodges and cottages, many of these harmonising so well with their surroundings that they have often formed the subject of sketches and photographs.

Working on the lines already indicated, Devey designed many large country-houses, and in so doing prepared the way for Norman Shaw, Philip Webb, and Nesfield. This is clear from the fact that in 1856 he designed Betteshanger, near Dover, for Lord Northbourne, while Norman Shaw, who was born in 1831, did not design Lowther Lodge until 1870, and Nesfield, who with Shaw is popularly supposed to have started the new movement, was not born until 1835, and was serving his articles between 1851 and 1853 in the office in which Shaw was a pupil.

Devey died in 1886, his partner, Mr. James Williams to whom I have already referred, becoming his successor. That Devey is so little known is certainly not because his work was either inferior in quality or small in quantity, for it was, on the contrary, both delightful and extensive; rather is it because Devey was essentially a man of quiet, modest, and retiring disposition.

A PHOTOGRAPHER'S ART.

Exhibition of the Work of James McKissack (Glasgow), at the Camera Club, 17 John Street, Adelphi, W.C.

Photography is associated with architecture, primarily, as a means of scientific and exact record, and is mostly employed for recording design, construction, or legal fact. Considered as a somewhat mechanical form of expression, its employment in practice is usually relegated to the commercial photographer, just as we send our copying to the lithographer or law stationer. Comparatively few architects consider it as a means of artistic utterance, but that photography is a highly suitable medium of expression and impression is justified to the utmost by the exhibition of James McKissack's pictures now open at the Camera Club, 17 John Street, W.C.

Amongst the sixty-odd pictorial photographs shown there are none that can be characterised as merely topographical maps, and those that can be classified as architectural are all architectural in but a minor degree, being chiefly concerned with composition, atmosphere, and the subtle and elusive effects of lighting. This is exemplified in such pictures as "St. Jacques, Lisieux" (No. 4), "A Wet Day, Rouen" (No. 8), "Mechlin" with its characteristic tower (No. 23), and "Notre Dame de Paris" (No. 25). That Mr. McKissack has a true knowledge of the value of line and balance is revealed in his decorative treatment of "Salmon Fishers" (No. 10), which could well be utilised as a *motif* for mural decoration

on a large scale. There are quite a good proportion of figure studies full of true human interest and graceful treatment, and there is more than professional interest in the rendering of "Scaffolders" (No. 45).

Mr. McKissack would also seem to have a poetic craving and outlook, for he has added the quality of romance to some haunting castle—"The Castle of Romance" (No. 30)—and has clothed "Notre Dame de Paris" with a feeling of charming mystery and imagination. "Scarboro'" (No. 27), or at least its old-world fishing port, is quite "an impression" in treatment, and "Boulogne" harbour (No. 39) has been endowed with a very haunting impression of smoke, mist, and shipping, and the elusive effects of light thereon.

The exhibition reveals a very versatile outlook both in subject and treatment, but withal retains a certain uniform personality throughout, and is altogether a great artistic achievement.

THOMAS H. B. SCOTT, *Licentiate*.

REVIEWS.

THE ENGLISH PARISH CHURCH.

The English Parish Church. An Account of the Chief Building Types and of their Materials during Nine Centuries. By J. Charles Cox, LL.D., F.S.A. 8s. Lond. 1914. 7s. 6d. net. [B. T. Batsford, Ltd., 94, High Holborn.]

At last the English parish church seems to be coming into its own. It has been overshadowed for the most part by the monastic, collegiate, and cathedral churches, to which have been devoted numerous and valuable monographs, and on whose architectural details the older text-books of English Gothic were mainly based. But the parish church was in no sense what it was often thought to be, a reduced and so inferior copy of a cathedral. There are of course exceptions, e.g. St. Mary Redcliffe, vaulted and clerestoried, with full equipment of transepts, processional path and Lady chapel, and with central tower, the stump of which may still be seen by anyone who will undertake the dirty climb beneath the low roofs above the vaults; such instances, however, are few. All churches, great and small, were built to provide shelter for ritual and services; but the ritual of the parish church was not that of the cathedral, nor *vice versa*. From the beginning the cathedral churches, having to serve multiplex purposes, were built on a scale undreamt of by church builders in village and town: and from the first, as at Winchester and Norwich, they started with a plan of the utmost complexity. With the parish church it was not so. Only one complication is found in its earliest plan: it had a chancel as well as a nave; and even that is not invariably found: a higher type being one which was not bipartite, but tripartite, its choir and sanctuary being architecturally distinct, as at Ilfley, and the choir covered with a central tower. A yet higher type, but still of very early date, is that in which the towered choir is

reinforced to north and south by transepts, designed to provide additional chapels. To these beginnings increase of population and need for greater accommodation added aisles, and the foundation of chantries added yet more chapels and altars. This in brief is the history of parish church development; it is not the history of the way in which the cathedral, monastic and collegiate churches reached their final form. The planning of the parish church is dealt with fully in Dr. Cox's interesting book in a long chapter reinforced by numerous plans. (We rather take exception to that of Newark church, in which the piers of the crossing are shown without the Norman work which is certainly there.) A fresh contribution to the subject is that a few of the later and larger parish churches, e.g. Redcliffe, Hull and Newark, possess the distinct ambulatory or procession path, which is an almost invariable characteristic of the later cathedral plans. Another chapter, necessarily brief, gives the usual account of the characteristics of Norman, Transitional, Early English, Decorated and Perpendicular, to which the author would like to add Geometrical; the use of a set of misleading labels is, however, not desirable in any case, nor is it in consonance with recent practice, as the writer acknowledges. Then comes what is the freshest and most interesting feature of the book—a special chapter devoted to materials—a subject which has long needed treatment. The writer's remarks on mediæval building stone, quarries, and transport are of much interest and value. Then follow sections on flint rubble-work, flush-work, and chequer-work, brickwork, plaster, white-washing, mortar, thatching, tiling, lead roofs, and ironwork. Finally, we are shown how to study an ancient church, externally and internally, the treatment of which reminds one of Dr. Cox's valuable and popular book on "How to Write the History of a Parish." It should be added that the book is charmingly produced, and that the illustrations are not only very numerous, but frequently of great beauty. But why truncate Patrington spire?

FRANCIS BOND [*Hon. A.*]

CORRESPONDENCE.

The Architecture of Humanism.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—Readers of the Institute JOURNAL will have been much interested in Mr. J. L. Ball's criticism of "The Architecture of Humanism." Mr. Geoffrey Scott's book is of such a polemical character that it must necessarily call forth many diverse expressions of opinion. May I, without any disrespect to your reviewer, describe briefly the impression which the book has made upon some of those who, not calling themselves Romanticists, have a conception of art which is different from his? The constructive part of the treatise, the theory of humanism, meets with Mr. Ball's enthusiastic approval, but the chapters dealing with the four "fallacies" he holds to be

unnecessary and misconceived. To many people, however, this destructive part will appeal just as strongly. In fact, they will experience a sense of lively gratitude in that a much needed task has been so admirably performed. The final exposure of the Romantic fallacy was even more to be desired than that of the "mechanical," "ethical," and "biological," for these latter are not so deeply rooted in popular sentiment. In the opinion of Mr. Scott, "Romanticism consists in a high development of poetical sensibility towards the remote as such." Mr. Ball replies that "no very critical eye is needed to see that all this is directed principally against the Gothic Revival; as a definition of the Romantic in art it cannot be received for a moment. According to this theory Renaissance architecture must be pronounced Romantic, for without question it was a cult of the extinct, without question it was inspired by the distant and the past." But surely there is a vast difference between the two cases! At the time of the Renaissance the relics of ancient civilisation were valued not because they were old, but because a living message was inscribed in them. The Italians searched the pages of Aristotle for new knowledge about science and politics, for a new insight into human nature, and from the Roman monuments they tried to deduce a code of architecture which might be adapted for their own purposes. Here was no sentimental idealisation of the past, no cult of the extinct, but a frank recognition of the intellectual superiority of those who came before them. In fact (if one may use the language affected by logicians), in the eyes of the Renaissance artists the antiquity of a building was not a *property* of the building, but only an *accident*. But the Gothic Revivalists thought otherwise. Ruskin says, and he puts this passage in fat print for greater emphasis, "Indeed the greatest glory of a building is not in its stones nor in its gold. Its glory is in its Age, and in that deep sense of voicefulness, of stern watching, of mysterious sympathy, nay, even of approval or condemnation, which we feel in walls that have long been washed by the passing waves of humanity . . . it is in that golden stain of time that we are to look for the real light, and colour, and preciousness of architecture." It is one of the justifications of Mr. Scott's book that this attitude is still widely prevalent among us, and must be completely modified before there can be that critical appreciation of modern buildings without which no general advance in architecture is at all possible. The English public weeps for the cities of Belgium, "precious links with the Middle Age"; but it does not lift up a finger to save Regent Street, an architectural possession of far greater æsthetic merit than anything at Louvain. The reason of this is that for the most part the clever politicians, lawyers and journalists by whom our country is governed, in so far as they devote any thought to architecture at all, approach it with a Romanticist prejudice. For them a building is either a utilitarian necessity or else "an

interesting record." If the house where Ben Johnson lived is threatened influential voices are raised in its defence; but when speculative builders leave their devastating mark on London of the eighteenth century and of the Regency, there seems to be none that can say them nay.

It is to be hoped that Mr. Geoffrey Scott's book, which, by reason of its profound scholarship and elegant prose style, is eminently calculated to attract the lay mind, may have the effect of turning men's attention from the accidental associations connected with a work of architecture to the actual form of the work itself. This is the error of the Romanticist—he is so much occupied with his sentiments and emotions that he is unlikely to arrive at a true understanding of the external world. He is not sufficiently impersonal. But, according to Mr. Ball's definition, the term "Romanticism" embraces great art of every kind, both ancient and modern. All art is Romantic, and everything Romantic is good. That has never been the universally received opinion. "The Classic is health, the Romantic is disease," says Goethe.

Yours faithfully,

A. TRYSTAN EDWARDS.

Painting in War Time.

Mr. Alexander Davidson, writing for and on behalf of the London Association of Master Decorators, of which body he is Secretary, says it is estimated that there are at the present time as many as 40 per cent. of the London Operative Painters out of work, a percentage far in excess of the normal for the time of year. Much distress exists among this class in consequence, and unless work is soon forthcoming the distress must grow rapidly. Those who control property, whether as owners, architects, solicitors or estate agents, as well as public and parochial bodies, can render valuable assistance in alleviating this distress without trespassing upon their claims for charity, if they will forthwith give orders for such painting and decorating as may be required.

Entirely apart from decorative work that might well be proceeded with, there is a vast amount of painting that is urgently required for purely protective purposes. The prices of the most important products used by painters, such as white lead, linseed oil, turpentine and paperhangings, are practically the same as they were at this time last year. The fact that master painters, in their desire to keep their men employed, are willing to cut their margin of profit to the extreme limit means, in effect, that the cost of painting and decorating work at the present time is as low, or even lower, than usual.

The idea that autumn and winter are not good times for painting operations is entirely erroneous. All inside work may be carried out quite as safely at those times, while outside work is just as durable, provided that it be temporarily suspended in foggy or wet days. Indeed, for some reasons the conditions are more favourable—*as*, for instance, in the absence of clouds of dust and sudden showers which occur so frequently in hot weather. It is certain that there is at the present time many hundreds of thousands of pounds' worth of painting and decorating work which might well be done. By ordering it to be proceeded with immediately property owners would do much good to the community, and, in addition, would be directly benefited themselves.



9 CONDUIT STREET, LONDON, W., 5th December 1914.

CHRONICLE.

The London Society's Great Project.

Lord Plymouth gives in the October number of the *Journal of the London Society* details of the preparation of an important Plan for the development of London, which it is claimed will not only supply a great need, but incidentally will also be the means of affording much-needed occupation to many whose ordinary work is interfered with by the War, and who would work under the direction of a strong Committee of experts appointed by the Society for the purpose and who are prepared to give their time and experience to the work. It is proposed to work in close co-operation with the Architects' Benevolent Society, the Artists' General Benevolent Institution, the Special War Committee of the R.I.B.A., and the Special War Committee of the Surveyors' Institution, to all of whom full details of the proposals have been sent. Steps have also been taken to get into touch with the National Relief Fund and other kindred bodies. We quote the following from the article in question:—

In the brilliant and eventful history of France the period of the Revolution is perhaps the last where one could expect to find an example that could be followed by London to-day. Yet it is so. Amid all that atmosphere of blood and terror the nation of ideas preserved faith with itself and mapped out a beautiful city. The labours of the Commission of Artists which the First Republic appointed in 1793 rank to this day among the most remarkable pieces of Town-Planning in existence. Fifty years later, Napoleon III. and Baron von Haussmann were guided by the plan of the Revolutionary Artists as the first Napoleon had been before them. The effect is seen on Paris as we know it. To that Artists' Commission of 1793 belongs the conception of the Rue de Rivoli, the connection of the Place Vendôme to the Rue de Rivoli by the Rue Castiglioni, and to the Boulevard des Capucines by the Rue de la Paix, and a host of other things.

All must feel that the best is not being done with London. It has grown up haphazard; in spite of many efforts its development is still haphazard. Until there is one great uniformly-executed plan to refer to, the eighty and more local authorities who control our monster community of seven and a half million people in 700 square miles will go on each making its own changes without any sort of relation to the whole. In the London Society the nucleus of an

organisation to head this movement for a Plan already exists. Now is the time to utilise the best brains upon this work of national importance. The professional men of London could be employed upon it. Many are badly hit by the War, though their condition is far from resembling that of the German artists and sculptors, whose immediate wants have to be looked after by a Committee of Berlin aristocrats.

This scheme would utilise the energies of London artists, architects, and surveyors in a manner that would provide work for them and at the same time be of the highest permanent value. Let no one be under the delusion that the Plan would not pay London, and, through it, the nation. London could become the great example of the economic value and use which skilful town-planning extracts out of every yard of a city, and of the way in which it can be worked into an effect of civic beauty. Paris has recouped herself many times over for her enormous outlay. Well-conceived schemes would repay London equally well. To do the best with London before it is too late, the Plan which we advocate is urgently and prudently essential. It would become the inspiration for the future growth of London, as the proposals of the artists of Revolutionary France became the inspiration for the growth of that Paris which is the delight of the whole world to-day.

The Council of the London Society intend to put into execution the project outlined above. What the French Artists of the Revolution did for Paris in the French manner, the London Society intends that the English Artists shall have an opportunity to do for London in the English manner.

There is much work of a varied character that requires to be done. The plan of London needs studying as a whole. There are numerous town-planning schemes being prepared for isolated bits of London. There are numerous schemes of local improvement which have been suggested from time to time. There is a great scheme of Arterial Roads which is being studied by six divisional Conferences of Local Authorities and others. There is constant demand first from one district and then from another to save some piece of ground for Open Spaces; to preserve a view-point, or provide a new park. There is a great need for more Playing Fields and Recreation Grounds, a need the urgency of which is emphasised by the physical unfitness of many thousands of London youths who might otherwise now be taking up arms in defence of their country's honour.

All these schemes, proposals, and demands, are of the utmost importance and value; but it is still more important that they should all be brought together on to one great plan so that the requirements of London may be studied comprehensively, so that the reaction of one proposal upon another may be realised, so that congestion at one point may not be relieved at the expense of worse congestion at another, so that open spaces may not be denied to a district where they are most urgently needed in order that the demands of a more clamorous district may be satisfied.

Some hundreds of delegates are trying to study a system of Main Roads leading out of London, but there is no map upon which they can see the conditions of London as a whole, there is no map upon which the contours are coloured to show the hills and valleys, on which the relation between the Main Roads and the existing and desirable Open Spaces can be studied; on which, in short,

all the existing information can be brought together, and all the valuable suggestions that have from time to time been made by different individuals or bodies can be set down and considered in their relation one to another.

This is the work upon which the London Society wish to focus the work of a number of professional men, confident that the very focussing of skilled minds looking at the problem from different points of view will lead to many valuable new suggestions for modifying and co-ordinating the various proposals which from time to time have been made. Before long the District Conferences which are considering the Main Roads of each district will be reporting. This will be the time to bring together the results of their labours, and to consider them in relation to all the other matters referred to above; and not least important will it be to study the effect on the central area of London which would follow the making of this system of main highways in the outer area.

The Open Spaces Committee of the London Society have already prepared a plan showing most of the existing Open Spaces. This needs completing, and has been waiting for just such an opportunity as the present to secure the help of professional men who could not ordinarily spare time for the work. It needs especially the possibilities for future Open Spaces indicated upon it. This map is in sixteen sections, each of which can be taken, worked up, and perfected by someone thoroughly knowing the district.

It is not suggested that this plan, when made, would be final or conclusive; but it would at least form a most valuable basis of solid information and suggestion, for the first time completely brought together and graphically represented, something which could be worked upon, criticised and improved. It is not too much to hope that such a body of willing workers, inspired by a desire to do some public service to London, would evolve new imaginative suggestions for Schemes of Improvement which would not only be of the utmost economic and commercial value to London, but might form a fitting memorial of the great time of strain and effort through which the country is now passing.

An appeal is made for subscriptions towards the Fund for the preparation of a Plan. Promises of donations have been received from Sir Aston Webb, R.A., £50; Lord Plymouth, £20; Mr. Carmichael Thomas, £10; Mr. Raymond Unwin, £10. Subscriptions should be sent to the Secretary of the London Society, 27 Abingdon Street, S.W.

An Architect's Call to Arms.

We print below the peroration of the stirring Address delivered by Mr. R. Burns Dick, Member of the R.I.B.A. Council, President of the Northern Architectural Association, at the inaugural meeting of the Session held at Newcastle-on-Tyne on the 25th November.

Rouse ye, ye builders! Cannot you hear the crumbling and crackling of the doomed walls of nations? Does not the sight of those slowly raised and mighty structures of Empire, tottering from the impact of the thunderbolts hurled by one against the other, stir your innermost being? One at least of these empires will survive, and with renewed vigour repair her damaged walls and raise anew with greater grandeur the towers of a loftier civilisation.

But which? You are surprised if not pained at such a question. There can be but one answer, you say. Quite right, there is but one answer if you are content to entrust your country's position to your neighbour. It will be the citadel of your enemy that will survive. This concerns you, each of us, and if you wish to see the British Empire emerge greater than ever, now is the time to engage in a greater work of restoration, rebuilding, and extension than ever you dreamt of when you took up architecture for a career.

You cannot prop her threatened walls with a T-square, nor tie them together with a tape line; you cannot, by studying the strength of materials and graphic statics, judge whether she is capable of resisting collapse; you cannot, by following the birth and progress of architectural styles, say whether she has outlived her strength or is still in the prime of her life. No, fling from you till a more fitting time your T-square and the tools of your trade, pick up the spade of the sapper, learn to pontoon the flowing river for the advancing hosts of your brothers-in-arms; by such engineering will you ensure the stability of the walls of our Empire. Thrust back to their shelves your Rivingtons and your text-books on strains and stresses, shoulder a rifle or work the breech-block of a quick-firer, so only will you ward off the forces that would bring about her collapse. Shut up your histories of styles, seek in the stories of Britain's heroes and learn the history of her past, and by falling in at the bugle's call add the fuel of perennial youth to the fires of her greatness.

Aux armes, citoyens! Formez vos bataillons!

Marchons, marchons!

Mr. Burns Dick has since joined his old regiment, the Tynemouth Royal Garrison Artillery, for the duration of the War.

The Prince of Wales's National Relief Fund.

The following letter, addressed to the Secretary R.I.B.A., has been received from Buckingham Palace:

DEAR SIR,—I am desired by the Prince of Wales to acknowledge the receipt of your letter of the 2nd November, enclosing a cheque for £210, being the first contribution to the National Relief Fund from the Architects' War Committee.

His Royal Highness was much pleased at receiving this welcome addition to the Fund, and requests that you will make known to the members of the architectural profession, who have so generously subscribed, how warmly he appreciates their support.

I am, yours faithfully,

WALTER PEACOCK,
Treasurer to His Royal Highness.

Letter from the French Ambassador.

The following letter, addressed to the Secretary R.I.B.A., has been received from the French Ambassador in London:

Antenne de France à Londres: 18th Nov. 1914.

SIR,—I beg to offer to the Royal Institute of British Architects my sincere thanks for the resolution passed at their meeting of 2nd November, expressing their sympathy with the French Nation in the losses sustained during the war by the wanton destruction of beautiful and historical monuments.

I am sending that expression of the feelings of your Society to the Government of the Republic, for which, I am sure, they will be particularly grateful.—Yours truly,

PAUL CAMBON.

The late Lieut. Doll, killed in action.

The following letter has been received from Mr. FitzRoy Doll [F.] :

Hadham Towers, Much Hadham, Herts, 28th Nov. 1914.

DEAR MR. MACALISTER,—Will you kindly convey to my fellow-members of the Royal Institute of British Architects my most grateful thanks to them for the kind resolution of sympathy with me in the loss of my dear son Lieut. Philip Walter Rudolph Doll at the front.—Yours very truly,

CHAS. FITZROY DOLL.

The Architects' Special War Relief Fund.

Members are reminded that subscriptions to the Architects' War Relief Fund [*see* JOURNAL R.I.B.A., 26th September, 1914] should be made payable to the Hon. Secretary, Architects' War Committee, 9 Conduit Street, Regent Street, W.

Colouring the Wood of Growing Trees.

The *Indian Forester* makes reference to a remarkable experiment in colouring artificially the wood of trees while in a growing state. By running a system of boreholes right through the trunk, stopping one end with cork and introducing a dye, the tree may be made to absorb the colouring matter. Thus the aniline dyes of malachite green and methylene blue coloured birch evenly, and eosin veined the wood with red. As the darker shades in wood have a higher value than the lighter, it is considered possible that by impregnating, for instance, a tannin-free wood like birch or maple with a tannin solution during growth, it would later be easy to give these woods a rich dark tint similar to that of the oak, which is rich in tannin, by means of treating it with ammonia under pressure.

OBITUARY.

Mr. Stockdale Harrison, whose death on the 10th November was announced at the meeting of the 16th, was born in Leicester in 1846, and in 1862 was articled to the late James Bird of that town. In 1868 he went to London, and was for two years under Mr. Somers Clarke. Returning to Leicester in 1870, he started practice simultaneously with his old schoolfellow, the late Isaac Barradale. Both met with success in their profession, and each left his mark on the architecture of the town. Mr. Harrison was perhaps best known by his domestic and commercial work, and many private houses and important factories testify to his soundness and ability in these important spheres. The factories of Messrs. Hart & Levy, N. Corah & Sons, Thomas Brown & Co., and the British United Shoe Machinery Company were

by him, and many people in the town and county went to Mr. Harrison with confidence when they wished to build a house for themselves. He designed several churches, including St. Thomas's, Wigston, and St. Stephen's and St. Guthlac's in Leicester, and carried out successfully various ecclesiastical restorations. He was also entrusted with the erection of the Leicester Working Men's College, the Vestry Street Baths for the Corporation of Leicester, Messrs. Barclay & Co.'s banks in Leicester and Peterborough, and the recently built De Montfort Hall, Leicester. These instances will suffice to show the confidence placed in him by those who knew his work and the integrity of his methods. As a man Mr. Harrison was genial, kindly, and singularly unaffected, and his modest worth won him the warm regards of all who had to do with him. He was a lifelong friend of John Fulleylove, the distinguished painter, who was likewise a native of Leicester and a fellow-pupil at Mill Hill House School under Highton, where so many local worthies have received their education. He took an enlightened interest in all matters artistic, and was helpful in many directions that made for the good of the town. The large and representative gathering that assembled in St. Martin's Church to pay the last tribute of respect indicated the esteem in which he was held by his neighbours and professional brethren. Mr. Harrison became an Associate of the Institute in 1882, and a Fellow in 1890. He left a widow, three sons, and two daughters. His sons, Messrs. Stockdale and Shirley Harrison, both Associates of the Institute, and for some years past in partnership with their father, are continuing the practice.

Mr. Edmund Thomas Perrott, who died at his residence, Cartref, Sutton, Surrey, on the 14th November, at the age of 68, was elected an Associate of the Institute in 1882, Fellow in 1888, and retired from membership in 1909. He was born at Stratford-on-Avon, of an old Worcestershire family, was educated at Cheltenham, and articled to the late Mr. Whitfield Daukes, of Whitehall. After working with Mr. Preedy he began practice in John Street, Bedford Row, about the year 1874, and soon afterwards he left London in order to reside at Sutton, where much of his later work was executed. In 1876, in collaboration with Mr. Charles Henman and Mr. William Harrison, he obtained the first place in the competition for Walsall Cottage Hospital, and the building was erected from their design. In the same year Mr. Perrott was at work on the Church of St. John, at Portmadoc, North Wales, and other work in the same town. At about the same time he designed the little Church of St. Martha at Tyddingwn, close to Festiniog, which was enlarged and completed in 1885. Both these churches, built with local materials, are thoroughly suited to their surroundings. From 1884 to 1890 Mr. Perrott was assisted in his work by Mr. R. Langton Cole, who lived near him, and during this period the buildings carried out included Sutton Rectory, St. Barnabas Vicarage,

the small Public Hall, the offices of the Sutton Water Co., and other works in the neighbourhood, as well as the rebuilding of Messrs. Bartrum, Harvey and Co.'s warehouse in Gresham Street, E.C. Between 1890 and 1904 Mr. Perrott was chiefly engaged on domestic work in Surrey, and in the latter year he met with a bicycle accident from which he never wholly recovered. His failing health compelled him, at first, to live a good deal abroad, and ultimately to give up his practice altogether. In all his work Mr. Perrott obtained the effect he desired by careful attention to the smallest details, combined with restraint in the general design, with the result that (to the writer, at any rate) his buildings seem as fresh and pleasing now as when they were erected, in spite of the kaleidoscopic changes which have taken place in so much of suburban architecture. Although his professional work occupied the greater part of his time, Mr. Perrott took a great interest in local affairs, and was unsparing in his exertions for furthering any cause in which he was concerned. He was a member of the first Sutton Local Board, was a churchwarden of the Parish Church, and Secretary of the local Conservative Association. He also took a deep interest in musical matters, and his long illness was a source of deep regret to his numerous friends and acquaintances.—R. LANGTON COLE [*F.*].

THE EXAMINATIONS.

The Special Examination, Melbourne.

At the R.I.B.A. Special Examination held in July at Melbourne, under the auspices of the Royal Victorian Institute of Architects, five candidates were examined, and the following passed:—JOHN ALGERNON EDWARD TOONE, Commonwealth of Australia Home Affairs Department, 151 Collins Street, Melbourne.

MINUTES. III.

At the Third General Meeting (Business) of the Session 1914-15, held Monday 30th November 1914, at 8 p.m.—Present: Mr. George Hubbard, F.S.A., Vice-President, in the Chair, 13 Fellows (including 7 members of the Council), and 9 Associates (including 3 members of the Council)—the Minutes of the Meeting held 16th November, having been published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary announced the decease of Frederic Kirk, Associate, elected 1882.

Letters were read from M. Paul Cambon, the French Ambassador in London, Mr. Walter Peacock, Treasurer to H.R.H. the Prince of Wales, and Mr. Chas. FitzRoy Doll [*F.*].

The Hon. Secretary announced presentations to the Library, and a vote of thanks was passed to the donors.

The following candidates were elected by show of hands:

AS FELLOWS (14).

DAVIS: J. Stacey [*A.* 1865] (Plymouth).
DOSSOR: John Malcolm [*A.* 1896] (Hull).
FRASER: Gilbert Wilson [*A.* 1897] (Liverpool).
HADFIELD: Charles Matthew Ellison [*A.* 1896] (Sheffield).
KEMPSON: Charles, Assoc. M. Inst. C.E. [*A.* 1894] (Leicester).
LANDER: Harold Clapham [*A.* 1894].
ROBINSON: Hurley [*A.* 1907] (Birmingham).

SHARP: Cecil Alexander [*A.* 1895].
WOODSON: Austin [*A.* 1906] (Ceylon).

and the following Licentiates, who had passed the qualifying Examination:—

BEWLAY: Ernest Chawner (Birmingham).
BOWLES: Charles William.
BROOKS: Stanford Morton.
JACKSON: Martin Thomas Ernest.
WYNNE: James Cumming (Edinburgh).

AS ASSOCIATES (41).

ANDERTON: Richard [*S.* 1910] (Preston).
BARBER: Richard Alfred [*S.* 1908].
BRYANT: Herbert Phillips [*S.* 1910] (Southampton).
BURNETT: Andrew Stuart [*S.* 1911] (Southampton).
CALLENDER: George Wilfred [*S.* 1913].
CALVERT: Charles Henry [*S.* 1908] (Nottingham).
CLARK: Walter Llewellyn [*S.* 1910].
COOKSEY: Harold Thoresby [*S.* 1912].
DICKESON: Colin Addison [*Special*] (New Zealand).
EBBS: Edward Harold Montague [*S.* 1911].
FOWELL: Joseph Charles [*S.* 1910].
GODWIN: William Hubert [*S.* 1911] (Bewdley).
GRIFFIN: Douglas Morley [*S.* 1911] (Liverpool).
HARRISON: William Holgate [*S.* 1910] (Whalley, Lanes.).
HEARNE: Frank [*Special*] (Oldham).
HEMBROW: James [*Special*].
HICKMAN: Ernest James [*S.* 1911] (Birmingham).
HOWARD: Percy [*S.* 1909] (Manchester).
HUGHES: Basil, P.A.S.I. [*S.* 1910].
ISAAC: William John [*S.* 1907] (York).
JARRETT: Eric Rawlstone [*S.* 1908].
JESSOP: Bernard [*S.* 1911] (Nottingham).
KALTENBACH: Albert Frederick [*S.* 1912].
KRUCKENBERG: Frederick Lawrence [*S.* 1910] (Leeds).
LEDGER: Godfrey Horton [*S.* 1911].
LEECH: William Leonard Boghurst [*S.* 1909].
MACRAE: Ebenezer James, *Licentiate* [*Special*] (Edinburgh).
MILLER: Stanley Russell [*S.* 1909].
PEERMAHOMED: Abdulla Bhanji [*S.* 1912].
PERKINS: Thomas Luff [*Special*] (Hong Kong).
PHILP: Richard Manning Haig [*S.* 1913].
RIDLEY: Geoffrey William [*S.* 1909] (East Grinstead).
RIPLEY: Cedric Gurney [*S.* 1912] (Ipswich).
ROLLEY: Horace Edwin [*Special*].
SILCOCK: Arnold [*S.* 1911] (Bath).
STAFFORD: Charles Ernest [*Special*] (Derby).
STANLEY: Gerald [*Special*] (Trowbridge).
TAYLOR: Herbert Samuel [*S.* 1910].
TYTE: Gilbert George Lee [*S.* 1910].
WADDINGTON: Harold Gerard [*S.* 1910] (Blackpool).
WOOD: Arthur Jackson [*S.* 1913] (Leicester).

AS HON. ASSOCIATE (1).

GOMME: Sir Laurence, J.P., F.S.A.

On the motion of the Hon. Secretary, seconded by Mr. Alexander N. Paterson [*F.*], Mr. J. A. O. Allan, *Licentiate*, was withdrawn from the list of candidates for Fellowship.

The proceedings then closed and the Meeting separated at 8.30.

COMPETITIONS.

Workmen's Houses, Milldamhead, Dumfries.

Members and Licentiates are advised that the conditions of the above competition are not in accordance with the Institute Regulations for Architectural Competitions, and the Competitions Committee are in correspondence with the promoters with a view to their amendment.

IAN MACALISTER, *Secretary*.



THE REBUILDING AND THE WORKMEN OF ST. PAUL'S CATHEDRAL FROM THE "ACCOUNTS."

By J. M. W. HALLEY [F.]

[Continued from page 60.]

IT may not be without interest to make a more particular note of the works of the four great architectural carvers (whose names have been preserved) of St. Paul's. The extracts given above define the limit of Grinling Gibbons' work in stone, and curiously enough they for the first time specifically mention the carver's name. Before this time the carving is charged with the masons' work, as it still continues to be, with notable exceptions, however.

In August 1696 the first mention of wood carving occurs when Grinling Gibbons received £1,432 5s. 8½d. "ffor carvers work done in the Inside of the Chaire," and in the July-September account of 1697 a further £1,561 4s. 6d.

These two amounts give the total of the money spent in the actual wood-carving of the choir. His wood, however, was found and prepared for him, as the following extract shows: "ffor 2154 foot of right wainscot for the Carver being all reduced to 2 inches thick at 22 pence p foot, with glewing fitting and pinning ... 197l. 00s. 00d." Other entries in the "Accounts" prove that "Lime tree" was also prepared for him. It is as useless to enquire how much of the work was actually carved by Grinling Gibbons' hand as it is to enquire how much of the carving of the Parthenon was done by Phidias himself. There was a good school of English carvers whom Gibbons was able to inspire by his example.

Another master-carver whose merits have been somewhat obscured by Gibbons was Jonathan Maine, who executed the admirable screens of the two chapels, the splendid projecting brackets in the library, and also the "carving work in ye south east and north east Vestries." The work of the latter is marked by less imagination than Gibbons' work, but it is perhaps more architectural—that is to say, its forms are dictated by those of the architecture, and it gains thereby what it loses in other qualities. All the woodwork was divided between these carvers, the stonework being done by Bird and Cibber, and, as I have shown above—the masons.

At the end of 1698 Cajus Gabriel Cibber rendered an account, the details of which are as follows:—

ffor Carving ye South ffrontispiece, being a great Phenix 18 foot long and 9 foot high	...	100l.	00s.	00d.
ffor a Modell of a relieve with two figures and emblems for ye said ffront	...	10	00	00
ffor a Modell for ye Phenix	...	06	00	00
ffor three Modells of Antique Lucerns for ye Pinacles	...	06	00	00

The "relieve with two figures" refers to a previous design, for in an account of William Thompson there is an item which describes "painting a Board with a Hart and other figures intended to be carved in ye Pedement over ye South Portico." This is another example of the tireless care which Wren gave to the building.

The last of the carvers is Francis Bird, who executed "the great Pedament of the West Portico, in length 64 foot and in height 17 f. being the history of St. Paul's conversion, and containing 8 large figures, 6 whereof on horseback and several of them 2½ ft. Imbost" for £650. This man also carved the "large pannell in Bass Relive over the Marble door at the West end," and the figures of the Apostles above the cornice of the Cathedral. He worked on these fifteen figures from 1720-1725, and received for them the sum of £2,040, not a great price (even when multiplied by three or four to find the equivalent of to-day) for figures between eleven and twelve feet high.

Perhaps the most celebrated work of this artist, who has been called the "Founder of English Sculpture," is the monument in Westminster Abbey to Dr. Busby, the famous head-master of Westminster School (Wren as a boy was one of his pupils). Unlike Dr. Donne, who stood in his winding sheet shortly before his death to have his portrait made, Dr. Busby "would never permit his picture to be drawn, and the moment he was dead his friends had a cast in plaster taken from his face, and thence a drawing in crayons, from which White engraved his print, and Bird carved his image." Another of his works was the monument which stood for many years in front of the Cathedral, until it was replaced by a very inferior copy by Belt.

Francis Bird was born in Piccadilly in 1667. He studied in Brussels under a man called Cozens, and afterwards, it is said, proceeded to Rome on foot. In 1686 he returned to England, when he sought employment with Grinling Gibbons and Caius Cibber,* so that he may have done journey-work at St. Paul's before he began to work for himself. He died in 1731, at the age of sixty-four, ten years after Grinling Gibbons, and thirty-one years after Cibber. Of these four carvers but one was celebrated—partly through the accident of his being mentioned in Evelyn's Diary, partly perhaps because of his wonderful dexterity in carving wood in the similitude of natural forms. His technique in wood carving has never been surpassed, and it is a perpetual joy to contemplate the aerial lightness and grace of these festoons and amorini, but it should not blind us to the obvious merits of his contemporaries. If they were lacking in the lightness of execution, in the daintiness of their imaginations, they had a fine idea of values and gave to their work its proper weight and relation to the architecture it was to beautify.

The few working drawings by Wren which have been preserved are remarkably simple. Elaborate draughts such as are necessary to-day, for the purposes of the quantity surveyor and for pricing, would not then be required, and for the purposes of the masons' contracts the simplest drawing would suffice. All the materials were found and the work was measured and paid for, in portions a few feet in height, at a previously arranged price, or by day-work or "by Task." A drawing showing a small part of the building in plan and elevation would be a sufficient guide. None of the artificers need ever have seen a complete plan or elevation to perform all that was required of them towards the erection of St. Paul's. So in a battle. The great idea is known perhaps only to one man, but in the development, the aid of many captains has to be invoked. The symmetry of the building also tended to simplify the drawings, which are invariably of the extent only of one mason's contract.

Several of Wren's plans show his setting out of the dome. Usually one quarter is drawn—that is to say, one of the great bastions with the two piers of the dome which are attached to it and the return outside walls only as far as the centre of the adjoining windows of the transept and choir or nave. It would be a simple matter, by pricking through (some of the drawings are marked with pinholes) to quadruple this plan for the four several masons, making in the transcripts the necessary alterations to adjust the bastions to accommodate the vestries or the great stairs. That these plans are by Wren's own hand there seems no valid reason to doubt, because they show in a visible way his working out of the relation of the drum of the dome to its supports. Several of the plans are superimposed on one drawing, and one can see at a glance how Wren contrived to place the eight buttresses in the peristyle of the dome directly upon the eight piers. The drawings are in pencil

* *Lives of the British Sculptors*, by Boresford Chancellor.

and ink and coloured chalks and wash; many of them are extremely fascinating because they show how Wren wrestled with his great problem. Unfortunately they would be very expensive to reproduce, owing to the faintness of the lines and the several colours, and to be of any use would have to be done in facsimile.

Wren had from the beginning the help of an assistant-surveyor, but it does not appear to have been any part of his duty to make drawings. He was paid for "his attendance in the work," and for "providing materialls and keeping an Acc^t of the same." (In pursuance of part of this duty there is an account of his riding into Portland to arrange about stone.) As all the materials had to be provided for the work, his time would be fully occupied, without having to make drawings.

Wren received no help with his drawings until 1691, when Nicholas Hawksmoor came on the scene. From that date the entry for his monthly salary occurs among the other officers'—the Surveyor, the Assistant-surveyor, the Clerk of the Works, and the Clerk of the Check, and reads as follows: "To Nicholas Hawksmoor ffor assisting the Surveyor this month in Copying of Designs and other necessary business for the Service of the Work at 20d. p day (being 27 days) 2l. 5s. 0d." Some of the drawings show small parts of the elevation, one of them a single bay, from the level of the ground up to the bases of the lower "order." Now this coincides with the extent of an early contract. Others show a half of the north or south porch, again sufficient for the masons. So that the drawings, judged in the light of what I have shown to be the method of building, are perfectly adequate.

Wren was the last man of whom it might be said that he was disingenuous, yet I can hardly believe that he ever intended to build the "Warrant" design. As I have shown, he had already begun the foundations at the east end of the new St. Paul's before the King marked on the drawing that he found it "very artificiall proper and useful." It must be obvious to anyone that however much Wren altered his design as he proceeded with the building—and he completely transmogrified his towers and dome—there were some things he could not change. He could not, for example, modify the spacing of the bays, nor could he very well make a building with one "order" into one with superimposed "orders," nor could he couple his pilasters if he had put in his foundations for single ones. The evidence points to the fact that Wren had another design which he judged it wisest not to submit to the King's arbitrament. The rejection of his great model rankled in a mind otherwise incapable of guile.

In contrast to the fragmentary working drawings of Wren, he caused many engravings to be made, of which two records remain in the "Accounts." In November 1701 the item occurs,

To Simon Griblin For 2 Copper Plates to Engrave the Designs of the west end of the Church	<i>l.</i>	<i>s.</i>	<i>d.</i>
upon... ..	3	12	6
And paid him in part for engraving ye said Designes	15	00	00

and in April 1703 the following:—

To Sr Christopher Wren For ye Value disbursed by him for Engraving ye following Designs Views and Descriptions of this fabric vizt:—

Ground plot, North Prospect, East and West Prospects (on the same plate) A large Section	<i>l.</i>	<i>s.</i>	<i>d.</i>
in perspective from East to West	225	00	00
For 4 Copper plates	7	05	00

In connection with the drawings, it is interesting to notice that certain "out of pocket" expenses, some of which the architect to-day has to pay himself, were disbursed to Wren. He was paid "ffor his Expenses in large Imperiall paper Pencills Letters and postege, from Midsomer in the yeare 1675 to Michmas 1700 being 25 years and a Quarter at 8l. per annum, 200l. 00s. 00d." Some two years before this time (1700) a moiety of the Surveyor's salary had been withheld, and was to be kept back until such time as the Cathedral should be finished. It is probable, therefore, that Wren was endeavouring to remedy the deficiency by charging for expenses, which he might otherwise have allowed to lapse.

Although none of Wren's drawings which remain to us are "Full size," it is certain that it was

In the same month a further £8 is paid to Edward Strong for models.

An entry of a later date—namely, August of 1696—introduces another model-maker in the person of a joiner, who made a great part of the oak work of the Choir. His account reads:—

"To Charles Hopson Joyner for time spent and stuffe used in making a Modell for ye Outside of ye east end, a Modell for ye seats in ye Choire, a Modell for ye Altar, a Modell for ye Organ-Case, a Modell for ye Organ Bellows, a Modell for ye Dean's seat, a Modell for ye Choire Organ Case, and for gluing of Boards for Mr. Tijone to draw ye Iron Screen etc. upon and gluing of Boards for Mr. Gibbons to draw on," etc.

The whole amounts to £139 9s. 4d. We may be sure that these models were not considered an extravagance, and that some vital necessity caused them to be made.

A few of the models can still be seen in the Cathedral; the best preserved, although not by any means the most interesting, is that of the western pediment showing the sculptures of Francis Bird, which represent the conversion of St. Paul. An inscription on the model says that it "was presented to the Vicar of Shiplake, A.D. 1833, by Mr. J. Plumbe, of Henley-on-Thames, who had purchased it from Badgmore House, once the residence of Richard Jennings, the Master-Builder of that Cathedral." Jennings was the master-carpenter, not master-builder, during the last years of the rebuilding, and probably acquired the model at that time. The model for the altar, mentioned in Hopson's account, also exists, very much mutilated, but yet complete enough to have been a guide to a finer altar than the one recently erected. Some of the models are made of wood, others of plaster. One shows part of a tower, a feature at which Wren laboured assiduously, constructed of plaster; another, built up in wood, gives a section of the Cathedral from the floor to the eye of the dome. The latter can be seen in the Victoria and Albert Museum with Stevens' decorations painted on it.

It is impossible, in an essay of this kind, to give more than a general indication of the scope of these models. They appear, however, to have been used to an extent very surprising to a modern architect, who seldom makes use of them at all. It may have been a survival of the mediæval practice. One of the counts in the indictment of Richard Jennings, was "that *James Coormack* made a Model of St. Michael Crooked-lane of the best timber belonging to *St. Paul's*." Not only were models made of most of the parts of the Cathedral but of the carving also. It is obvious, of course, that the carving could not very well be done without such a help, although it appears from Hopson's account quoted above that Grinling Gibbons also drew his designs on a board. When Jonathan Maine charged for carving "346l. 8s. runing of Raffled Leaves, Shells etc. of the Great Moulding at the foot of the Pillasters in the Dome 14 In. high and 4 In. Cutt in girt 21 inches at 8s. 6d." he includes, "For 10 fo. runing of the great Moulding cut in Wood to set up for a pattern," and Cajus Gabriel Cibber charged £4 "For making a Modell of a Compossit Capill." There are several plaster models of carving in the Cathedral.

It must be remembered that, just as Wren was dependent on water-borne stone, he was dependent on hand power for raising stone, and any engine he could contrive was necessarily limited by his motive power. In a letter from Paris, written in 1665, Wren refers to the "raising the Stories, Columns, Entablements, etc., with vast Stones, by great and useful Engines"; and in the report, submitted to the Commissioners for the Reparation of Old St. Paul's in 1666, he writes "that having had the opportunity of seeing several Structures of greater expense than this, while they were in raising . . . thinks the raising of Materials may yet be more facilitated, so as to save in lofty Fabricks, a very considerable part of the Time, and Labourers Hire."

Although cranes were erected at Portland and Baynard's Castle and Paul's Wharf, they do not appear to have been used at St. Paul's. The important engines were the "Capsterns," which were built on the ground, at convenient points about the building, most likely in the centre of each mason's sphere of work, and although the name suggests the capstan used on shipboard, it is difficult to see by what arrangement of tackle and pulleys the "capsterns" could be made capable of raising weights

above their own level. At the same time the capstan bars, to which a number of labourers could be put, would give him the power to move great weights. It is certain, however, that they were placed on the ground as permanent structures.

The abnormal nature of the whole undertaking of the rebuilding appears from many isolated facts. Several shipmasters were paid by the Commissioners for having the hatches of their ships enlarged to take in "scantling stones," some of which weighing as much as "7 Tuns and more." Other captains, again, were paid for damage done to the hatches of their vessels in shipping the great stones.

The Commissioners also paid for erecting cranes at Baynard's Castle, Redriffe and Portland. Now it is obvious that the quarry men possessed apparatus for raising stones of ordinary dimensions, but when it came to lifting blocks equal to a cube of ten feet, it was different. It must have been a notable sight to see the workmen manœuvring these great blocks of stone from Paul's Wharf to the Churchyard, the horses straining on the low drag-carts to pull them up the steep hill, the labouring men rolling the stones on pieces of elm to the masons' yards, and at last to watch them, these cyclopean blocks of stone, being raised a hundred feet in the air by the sole power of man's hand. On the building itself sheers and gibbets were erected, and great bridges were built from pier to pier, so that the stones might be rolled to their final resting places.

In every place Wren's ingenuity must have been taxed to the utmost, to overcome difficulties which had never occurred before in building in this country. As the work rose higher, Wren fashioned engines with huge balanced barrels to take up rubble and mortar to the high levels of the building. The engines were experiments, and could not be made without a model, and we find Laurence Spencer, the clerk of the works from 1685, paying "ffor turning 2 Barrelles and a wheel for the Modell of an Engine." Howsoever they were made, these engines were placed at the top of the work. Wood and iron and brass entered into their construction, and there is mention of a "spurr wheel 6 foot over," and of brass gudgeons and pulleys. There is something elusive about the items which go to make up an engine. How were they disposed—for example, the "12 small wedges for the Chaine cramps" and the "hasps and staples"? To make a restoration would require as much ingenuity as to draw out the Mausoleum of Halicarnassos from the vague description of historians. However it was obtained, Wren must have made power by means of cogged wheels, chains and what not, to lift blocks of stone, in weight beyond the dreams of mediæval masons, hundreds of feet into the air.

Before considering the question of wages, it may be stated that all money must be multiplied by three or four to find its equivalent value to-day. For his services Wren received £16 13s. 4d. a month, just double the amount paid to John Oliver (the Assistant-Surveyor, from 1675 until he died in 1700, when he was succeeded by "Thomas Bateman Gent") and Laurence Spencer, the clerk of the works. One general rate of pay obtained among the skilled workmen from beginning to end of Wren's great undertaking. Masons, carpenters, joiners, sawyers, bricklayers, and plasterers were allowed 2s. 6d. a day, and the masters 3s. The anonymous carvers, however, received as much as 5s. and as little as 3s. a day; and the plumbers, at least the eight men who were "9 days each dressing down the top p^{ce} of Lead of ye Cap (on the lantern) into ye Mouldings cutting out sev^l Tack holes, Soldering the same and sev^l overlays," had 3s. Labourers received from 1s. 4d. to 1s. 6d. a day. These rates were allowed, at any rate, by the Commissioners, and were paid monthly, but then, as now, the masters made something by their men, who without doubt were not able to go for a month without pay. Establishment charges would not then amount to a great deal, as it was possible, all materials being found, to carry on work at St. Paul's without other workshops than those on the building.

Towards the end of the work it would appear that some of the masters made too much by their men. Richard Jennings, the master-carpenter, was accused in 1710 of allowing his men but a small part of the wage he received for them. It was said that he employed about a hundred men, and "that he pays to some of them not above 18d. per day each, and but 2s. a Day each to the Remainder,"

and that "some of the men are not capable of earning above 12d. a Day." Jennings in his defence admits that he received 2s. 6d. a day for every man, and proceeds: "I answer, That it is true—that I have employed about the Number of Men and have received Wages for them as mentioned. But the Number was necessary for the great Dispatch of the Work, which Sir Chr. Wren required of me, and if any one will compare the Work done in those four Years with the Work and number of Carpenters in former Years; it will be found, that the four Years, will come up to a greater Proportion of Work and Progress." He answers further that he raised the wages of several men beyond what they had before received and gave them all satisfaction. "I own," he says, "that I have not paid my Men the full Wages I received from the Church, but have been a gainer by them, as all Masters and Undertakers are."

Whether Jennings was an honest man or not, he was a good carpenter. He it was who built the centering of the inner dome, in the contrivance of which Wren was so proud. Jennings would have preferred to do his work by task or contract so that he should have been able to make a greater profit, but Wren kept him to "Day-work." In the case of the centering for the dome he gave him a gratuity (this formed another count in his indictment) "for his skill and extraordinary pains, care and diligence in the performance of the centering of the Dome, and for Modells for the same fifty Guinys, 53l. 15s. 00d."

The item which follows shows another aspect of the carpenter's duties. It is "for his horse hire and expenses in 3 journeys into Kent this and last year to chuse and mark Oak-Timber for the Building, 5l. 7s. 6d."

Some time about 1694, a present was made to the Church of some oak growing in Yorkshire. There are several items in the "Accounts" dealing with it. Laurence Spencer notes that he gave to "Mr. Neale for his care about the Duke of Newcastle's Timber which was given for the use of this Building: Twenty Guineas at 26s. each, 26l. 00s. 00d.," and "ffor wharfage at Porters Key of 55 Ends of the said Timber, 00l. 07s. 00d.," and further "To Robert Denby and Robert Porret ffor freight of 59 Ends of his Grace the Duke of New-Castles Timber 10 Tons 15 foot and other charges as p. Bills of Lading, 18l. 18s. 06d."

At the end of 1696 we still find charges in connection with this timber, which are, "To John Ettie Surveyr of York ffor charges laid out for freight of the Yorkshire Timber to Hull for posting and sawing thereof and looking after ye same, 070l. 17s. 09d."

One of the most famous names connected with the rebuilding of St. Paul's is Jean Tijou, the smith, who gave to the art of working iron into fair and exquisite shapes, an impetus that lasted throughout the eighteenth century. His own work is the best that has ever been done in England, and his ironwork at St. Paul's, if it is lacking in some of the virtuosity of execution which characterises the Hampton Court Palace grilles, is perhaps his masterpiece. At St. Paul's the fantastic quality of his *repoussé* work is subdued by the lines of the iron, till it melts into it and becomes part and parcel of the design. When his name first appeared in the "Account" books, it was not as the maker of grilles, but of windows in the choir. In November 1691 and January 1692 he supplied the ironwork of eight windows, and in November 1692 four more, and towards the end of the following year nine upper windows for the choir. These windows were all made at Hampton Court and brought by water to Paul's Wharf; but by 1699, he appears to have moved his works into town. In that year he is paid £160 "ffor a paire of great Gates at ye west side of the South Portico with a Wicket, framed of Strong Iron, with Ornaments, and points on ye top." Thomas Slyford fetched them from "Piccadilly to ye Church."

Six years later Tijou executed "the fine Iron Work of ye Balcony round the Inside Cornice of the Dome by Agreement," for £823, and the "Gates of ye two side Isles of ye Choire," also by agreement for £540.

These prices include for iron, workmanship and fixing. Tijou also executed the balustrade of the geometrical stair and the "Iron Work in the Hatch door and other Ornam^{ts} at the bottom of ye Stairs," in June 1706. Some of his work was done "by agreement"—a design must have been submitted with a price to Wren—but much of it was reckoned at so much a foot. The windows and the balustrade of the stair, for example, belong to the latter category, when Tijou charged, in June 1707, "for fine Iron Work in ye Balcony at ye Wst. End." His account is set out in this way:

										<i>l.</i>	<i>s.</i>	<i>d.</i>
135 fot. ring of Pannells at 2s. 6d. ...	...	...	...	...	...	...	...	...	...	297	0	0
15 fot. of Pillasters 7s. 9d. ...	...	...	...	...	...	...	...	...	...	111	15	0

And immediately under it is written:

For ye Altar Raile by agreement	260	0	0
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Long before Tijou began to supply his ironwork, however, other smiths had been employed, and these continued to work at the Cathedral.

It was hardly recognised, before Mr. Mervyn Macartney pointed it out, to what an extent ironwork entered into the construction of St. Paul's, but it is literally laced together with iron. Stones are cramped, innumerable chains are used. Wren, indeed, like many men, did not practise what he preached, if we can accept Stephen Wren as representing the views of his grandfather, when he writes: "in cramping of Stones, no Iron should lye within nine Inches of Air." This hidden ironwork had to be supplied by smiths, and the quotation of one account will give an idea of the elaboration of this reinforcement. It reads:—

To Samuel Coleburne Smith—

										<i>l.</i>	<i>s.</i>	<i>d.</i>
ffor ironwork for part of the Chaine for the South Portico w th 2C. 0q. 6lb. at 4s. p l. ...	...	...	...	...	...	...	...	...	...	03	16	08
ffor more ironwork for the said Chaine w th 2C. 00q. 23lb. at 4s. p l. ...	...	...	...	...	...	...	...	...	...	04	15	00

Two similar items follow, the whole weight of iron amounting to 6 cwt. 7 qr. 9 lb., but that chain is not finished, for the following month "Cramps for ye Chaine" and "Cramps and Pinns and Keys" are added. This work is of a coarser nature than Tijou's, but in 1701 we find Thomas Coalburne and Thomas Robinson supplying the iron work for twenty-four windows in the dome, and the former made balconies for the "Diagonall Arches under the Dome." Thomas Robinson again made the "Iron Rail to stand before the Consistory" (now the Chapel SS. Michael and George) and the rail of the golden gallery.

It appears, therefore, from what I have shown above that the English smiths were fine workmen and artists, and only in the more graceful touches was their work inferior to that of the Frenchman Tijou. It is interesting to notice that the pine-apple on the top of the north-west tower was made by the latter, whilst the finial on the south-west tower was done by Jane Brewen Coppersmith (a woman), whose workmanship is much better than Tijou's. The "Ball and Cross" on the lantern was made by another coppersmith named Andrew Niblett, the same man who supplied the "brass plates planished and polished for the Dome," i.e. the floor of the dome.

While it may be assumed that Tijou supplied his own designs for his more elaborate work, the windows probably conformed to a pattern supplied by Wren. In the case of the finials to the towers, models were supplied to him, for in July 1708 a charge was made by—

Francis Bird Carver, for moduling a pine apple for ye S. West Tower...	...	...	...	...	...	...	...	...	...	1l.	1s.	6d.
For moduling the Scrolls, Ball and Cross etc. for the Lantern to ye Dome ...	...	...	...	...	...	...	...	...	...	2	3	0
For Carving one of the Scrolls for the Copper Smith to make his molds by 4' 6 high 20" deep	...	...	...	...	...	...	...	...	...	5	0	0
and 18" in the face ...	...	...	...	...	...	...	...	...	...

This ball and cross perished and was renewed by Cockerell in 1821, apparently on a larger scale, for the scrolls are now 7 feet high, instead of 4 feet 6 inches as given above.

No completer refutation of the idea that the practice of crafts failed with the passing of the mediæval spirit could be instanced than St. Paul's, where all the crafts appear in the greatest vigour and so happily married that there is not a jarring note—no workmanship but what is admirable, no ornament but what is perfectly adjusted to its place. And this excellence was general, for the craftsmanship of the seventeenth and early eighteenth centuries seem to me to stand pre-eminent, as the masonry and stone carving, the joinery and wood carving, the carpentry, the brick and plaster work, the iron work, are the work of men whose skill of hand, whose intelligence, have never been surpassed. No, these hands did not lose their cunning till they faltered and failed before the unerring power of steam, which came and, like some titanic power, swept away ruthlessly what the feeble hand of man alone can give, to stone, to wood, or to iron, something of the warm heart that moved the pulses in the quick joy of creation.

Something must be said of the joiners, without whom the beautiful choir of St. Paul's could not exist. The choir was opened for divine service on the occasion of the Thanksgiving for the Peace of Ryswick, held on the 2nd December 1697. Carpenters began to put up the framing for the stalls in January 1695, and in June they were still working, "cutting some of the framing—less," for the joiners. The joiners' work, which was undertaken by four masters, occupied a little over a year. In September 1696 Roger Davis and Hugh Webb, John Smallwell, and Charles Hopson had their accounts made up. In the case of the first two (they were partners) it amounted to £1,876 4s. 6½d., in the third £527 11s. 5d., and in the last £1,638 14s. 11d. Several smaller items must be added, however, before the total can be arrived at. For example, Roger Davis and Hugh Webb charged £90 12s., "ffor days work in making Modells and Patterns for severall partes of the Joyners work in the Choire from Ladyday 1695 to Ladyday 1696." John Smallwell, for the same kind of work, received £18 11s. 9d., and Charles Hopson for models, above £139.

The "Accounts" are made out with extreme accuracy, and many of the items are interesting, for example:—

	<i>l.</i>	<i>s.</i>	<i>d.</i>
ffor the Bishops Seat with all wainscot for ye carver, etc.	60	00	00
ffor the Bishops Throne with Pillers Pedistalls and capitalls and stuffe for Carver, etc. ...	82	00	00
ffor 22 Banisters in the back front being all wrought by hand at 7s. each	07	14	00

The last item refers to the square carved balusters, which were shaped by hand, and not turned square. Grinling Gibbons charged 7s. 6d. for carving them.

Another entry reads:

To Charles Hopson for time spent and stuffe used in preparing the Wainscot for ye eight great Figures for ye top of ye Organ Case and the six Boys and two Crownes and a Miter, and preparing the lime tree for ye carving in and about ye Choire, 77*l.* 13*s.* 06*d.*

The "Accounts," as I have said before, are very human, but the most intimate touches occur in those of Laurence Spencer, who had to pay for all kinds of odd things. Every month there is an entry of six or seven shillings "ffor meat for the Doggs," and less frequently for dinners at the passing of the accounts. Occasionally a more elaborate meal would seem to be indicated, when, for example, he—

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Paid for a Warrant for a Buck	00	11	00
Given to the Keeper	01	00	00
To Mr. Olivers man being by him expended in going for the Buck and paid for carriage of the same	00	12	00
Paid Mr. Shaw for Dressing the Dinner and for Wine as p. Bill	07	02	06
Paid the Cook for making 2 Venison Pasties	01	00	00

The Buck was presented by the Queen's Majesty to the Officers of the Church, and Wren doubtless took his place at the dinner.

Not only does Laurence Spencer minister to life, but to death also. Among the labourers at the beginning of the rebuilding is one called Peter Barnes, who also performed occasionally the duties of night watchman. He must have been an old man to begin, for he was soon superannuated, when he received a small allowance, until at last, in 1694, Laurence Spencer notes that he gave "towards the Charge of burrying Old Peter Barnes, 1*l.* 00*s.* 00*d.*

Paid ye Widow Barnes her Husband's allowance for this month, 00*l.* 06*s.* 06*d.*"

Glimpses of Wren, however, are rare, and you have to adopt the procedure recommended by his epitaph, "to look around," when you feel his presence throughout as the guiding spirit. The account of Edward Strong, Junr., which signifies that the lantern is finished, could not make mention of the fact of Wren's presence. And one is fain to cling fast to the idea that he was present, hoisted aloft in his basket as was his wont, on that day of days.

The peristyle and dome took some eight years to build, not a long period when we consider the means Wren had at his command. Indeed, the period of thirty-three years, the space of time occupied by the rebuilding, is remarkably short. And it is an additional tribute to Wren's capability that he was able to organise the work in such a way that it was finished in his lifetime. Almost alone of the workers who laboured at the rebuilding, Wren saw its beginning and its completion, his subordinates had one by one fallen out of the fight, so that when his son laid the top stone of the lantern in October 1708, Wren stood among a younger generation. Edward Strong, the third of that surname, and the mason who had the honour to build the lantern, were, with the other master-masons, with Wren on that last day when the top stone was laid by young Christopher Wren.

What a picture was there as they looked out from their high point of vantage. Immediately beneath the feet of that little group of men, swelled out the vast leaden cupola, rising from out acres of leaden roofs, confined by masses of the pale masonry. They would see the aerial towers fresh from their enveloping scaffolding. Looking eastward, the apse of the Cathedral rose like the fore part of a ship, and it may have seemed to them that they stood on a "battleship of God."

Far away to the east appeared the veritable sea shining like a silver mirror, from which the pale thread of the Thames reached almost to their feet. There lay the idle stone ships and barges, that for many years had come from Portland, Beer, Maidstone and Oxfordshire and from France, with heavy freights of stone and timber. Around them lay Wren's manifold works, Greenwich and Chelsea Hospitals and Hampton Court Palace, and pricking through the red roofs of London Town, like passion flowers, the fair spires of his fifty City churches. For these men, Wren's co-workers, it was a great moment, but for Wren himself it was the supreme moment of his life. Much success had come to him; almost from his cradle he had been as one apart, distinguished by unique qualities of intellect, but he had no previous triumph comparable to this.

Remembering St. Peter's, with its long and tedious march toward the light, he would thank God that he had been permitted to put the top stone to his greatest creation.

It were best to leave his story here, as the aged man stood with his sublime head almost touching the stars.

TO MERVYN MACARTNEY, Esq., B.A., F.S.A.,
Surveyor to the Fabric of St. Paul's Cathedral,
this humble excursion into his territory
is dedicated.

WAR AND ARCHITECTURE.

By R. BURNS DICK [F.], President of the Northern Architectural Association.

Inaugural Address of the Session, delivered at Newcastle-upon-Tyne, 25th November 1914.

WE meet to-night at the opening of a new session under circumstances such as none of us a few short months ago would have conceived possible in our wildest dreams. We had had mild visions of adding a little to the history of the Association during the year, and started well by extending our sphere of influence and in making the closer acquaintance of our *confrères* in Carlisle and district, and had hoped to inaugurate a closer alliance with them during the session on which we are entering. But suddenly our little attempts at making history are forgotten; over us have swiftly gathered the shadows of what would appear to be the greatest calamity that has yet befallen mankind. Things that once loomed so large on our horizon, that filled our thoughts and absorbed our activities, now fade into insignificance; our programme gone by the board, and only a feeling of uncertainty as to our future action, and, surely the most amazing thing in the history of such a society as ours, we have at work, of all things, a War Committee! This, as you know, is in conjunction with, and following the example of the R.I.B.A., and I strongly appeal to all in a position to do so to give generously to the Fund being raised in connection therewith.

Now I had proposed to myself an Address for this evening on very different lines from that which follows; but matter that under normal conditions would have seemed entirely appropriate, now seems strangely trivial and insignificant in the light of the cataclysm into which we are plunged, and I have felt it quite impossible to deal with the work and position of the Association, or, even if competent, to discuss any of the burning questions which come within the scope of our activities. Now, whether as architects or citizens, there is but one dominant, overwhelming, all-important interest in our lives—the War.

Though we must try to keep business going, I confess to a feeling that the "Business as usual" motto is somewhat of a pretence, and I make no apology for reflecting in my Address the unprecedented conditions which, in the fifty-sixth year of the comparatively placid history of the Northern Architectural Association, have suddenly swept over the whole social and economic structure of this country and the principal States of Europe, involving to a greater or lesser extent the stability of every civilised community in the world. What matters now those things that professionally we thought so all-important, when suddenly we find the whole course of our existence, our homes, our material welfare, indeed our very lives, jeopardised, not by an outbreak of the earth's crust

such as has devastated large areas in the past, but by a much more deadly and far-reaching distortion of nature—the ebullition of a disordered intelligence, the egomania of one section of humanity, resulting in this titanic conflict.

Earthquakes and volcanic eruptions have caused much loss of life and the destruction of admired works of man, but such explosions of the blind forces of Nature leave but ephemeral scars on human development. They rouse none of the baser passions that survive from the brute phase of man. They are swift and merciful in their manner of destruction compared with the wanton savagery shown by primitive man, and later by nations of higher intelligence whose mastery over their lower nature is overthrown by the insidious poison of a false philosophy. This it is that gives rise to that megalomania responsible for so many wars of civilised peoples, and now for this terrible blight which, not content with the shedding of innocent blood, must needs ruthlessly destroy some of the fairest works of man. The great library of Louvain consumed in flame, Rheims Cathedral battered beyond repair, and many more of those beautiful buildings which should have remained imperishable monuments of man's spiritual and mental striving and social development reduced to the inert elements from which they were so laboriously built up.

No cultured man can remain insensible to the loss such destruction involves; least of all can we, whose study and life's work have fostered within us a specially close interest and affection for the famous architectural works of the past; and it must be recorded in our annals with what horror and detestation we, not only as a Society of Architects, but as heirs and sharers in an advanced civilisation, view the wanton and irreparable destruction of those works which form part of the foundation on which are reared our present-day attainments.

How many of those interesting monuments are to be for ever lost to us cannot yet be stated, but we must hope that the flood of senseless vandalism that has scarred the fair plains of Belgium and Northern France has exhausted itself, and that no revenge of like nature will stain the fair fame of the Allies when the tide of battle ebbs back to the Rhine valley and beyond. Protests through neutral countries will no doubt minimise the savage and unnecessary damage; but is it possible at all to wage war under modern conditions over country rich in old historic towns without inflicting some loss to the architectural monuments of the past! Will a Briton about to enter into death-grips with a foe first put on gloves for fear of defacing

those features which, we are told, are in the image of his Creator? No more than will our brave gunners hesitate for a moment to drop their bursting shrapnel into Cologne if they think for a moment that there lurks the enemy whose defeat is essential to their country's existence. It is a misfortune if the Cathedral suffers; but what is the greatest work of art weighed in the balance against a country's fate?

War is a stern business, and in the actual conflict cannot in the nature of things have anything in common with the arts of peace. Then, as architects, our first impulse must be to wage war against war. War is a destroyer—our beloved art suffers. Then must we rejoice when we are told that this great conflict is the Armageddon of the Apocalypse in the acting—the final fight between right and wrong; and so when the brave Allies have established the might of right, we may settle down in the atmosphere of a universal peace to the continuous and uninterrupted enjoyment of our art. Vain illusion. Read history and ask yourself if there is the slightest shadow of ground for the hope of universal peace so long as man is man. War may serve a useful purpose, or be entirely bad, as so ably argued in a recent article by the Bishop of Carlisle on the "Deceitfulness of War." But the big fact remains that war is. This is no place to discuss the ethics of war, and while I am not going to associate myself with the Bernhardt contention of the absolute necessity of war for the progress of a nation, I am going to say that I can find no record of any powerful nation in the past which has not climbed to its position of greatness by the aid of war.

It has been said that the history of civilisation is largely the history of a few great cities. It might with equal truth be said that the history of these cities is a history of war. As architecture is bound up in the history of cities, it follows that architecture and war are closely associated. We have ample evidence in all ages of the destructiveness of war, of the losses inflicted upon the building arts; but have we ever paused to think of the immense influence war has had upon the extent and character of the architecture of the past? Would it surprise us if we were informed that the great building epochs upon which our present skill and knowledge are based are inseparable from, if not actually due to, the fierce contest for mastery of nation over nation.

Glance through any good history of the world, and for every page you find dealing with the sociology, art, science, industry, and commerce of a people, you will find a score or more recounting the exploits of princes and generals at war, the doings of their armies, the shock of battle on the plain or on the sea, the siege and sack of cities, rapine, murder, pillage, fire and famine, intrigue and treachery, mixed with heroism and unselfishness. Read on and you will find a city slowly emerges out of the destruction and disaster, a city or people mounting and sustaining itself on the bodies of its vanquished enemies, maintaining itself, with more or less lengthy intervals of peace, by the

sword, but only so long as it is strong enough to ward off its rivals. Continue your reading and you will find that the peace interval, where it is not a preparation for offensive or defensive action, is the presager of destruction from the gathering forces from within or without, possibly both. So much does this force itself upon the conscience that it might well be asked whether war is not the natural state of things, and peace but the more or less accidental breaks in its continuity. Is there not some truth in Thucydides' definition of peace as "the unproclaimed war"?

Here it will, no doubt, be said that as we talk of the arts of peace, it must be conceded that everything we consider most worthy of the intelligence and progress of man is due to those intervals in the chain of war. True, these are the Golden Ages in the histories of the great cities, the periods we look to for inspiration in our art; but, unfortunately, it is impossible to disassociate those Golden Ages from war, to imagine the existence of these periods of prodigal and luxurious building, without considering the craftsmen and artists as camp followers in the wake of the phalanx of warriors clearing the ground and garnering the tribute wherewith to nourish them.

Suppose we had universal peace, what grounds have we for supposing that the arts would grow and flourish as never before? It might be so, but I find no evidence on which to base such a supposition. I have made some search only to find that the facts of history as they present themselves to me show that the warring activities of man have always cleared the ground for, and made possible, his great constructive efforts; that whilst much destruction has followed in the wake of his ruthless desire for conquest, something new and great has as often resulted.

I wonder if in the dawn of intelligent mankind the development of his nature had been along the line of universal brotherhood and unselfishness; in peacefully pursuing a pastoral life without desire for aggrandisement at the expense of others, the present level of mental and intellectual vigour would have been attained—if anything comparable to the material evidence of our so-called advanced civilisation so abundantly spread over the earth's surface would exist? Personally, I cannot imagine a great literature, great art, great achievement in any direction, such as we understand it, sprouting in such a soil. But dig into its placid composition, with its dormant qualities of generosity, fearlessness, and patriotism, a fertilising admixture of hate, anger, fear, jealousy, ambition, greed, arrogance, and lust of power, and you have Homer, the Bible, and Shakespeare, the wealth of the Acropolis, Santa Sofia, and Notre Dame—mysterious thing and beyond our comprehension.

There are, it is true, many forces in nature equally if not more inimical to human life and the works of man than war, which are gradually being overcome by his genius; and it may be that the scourge of war will also be destroyed and a greater development of his powers than ever take place on a lasting peace.

But let us leave such far-off visions to the imaginative mind of a Wells and look at things as they are. Let us glance backwards at the great architectural periods of the past and see what part war plays; not with the idea of tracing its influence on their characteristic forms and details—a fascinating theme that demands a separate paper—but rather to enable us to correct our foreshortened perspective of present events and so attain a surer estimate of their value in relation to the great evolutionary scheme of things.

Instinctively the mind leaps back to the Nile; we see through a veil a confused picture of huge temples, pyramids and obelisks, and try to penetrate the mystery enshrouding them. There, over a relatively very long period a really great civilisation endured—endured, it might be argued, for so long, and reached so high a pinnacle of achievement, just because by reason of its unique geographical position it was less subject than the other great nations we shall consider to hostile attack or desire for conquest. This point is worth consideration, though, in the absence of authentic records, and judging from historical analogy, we cannot immediately accept such a conclusion. That war was not absent there is no doubt, for we may read: "In the middle epoch of Egyptian history the desire for foreign conquest shows itself, and we find Nubia becoming an Egyptian province, and the gold of its desert thence belonging to the Pharaohs," also that "The Golden Age for the temples began with the Asiatic campaigns of the 18th Dynasty." Think of these mighty structures and the colossal tombs reared by hordes of subjugated fellow-beings and ask yourself whether war played any part in their creation.

Turn to the bygone civilisations of Babylonia and Assyria and let your thoughts be stirred by the wonderful story of such cities as Nimroud, Kharsabad, and Nineveh, only now, after three millenniums, being slowly unfolded. Until recently little more than names, we can now picture them as rich and magnificent centres of advanced activity. But if the archaeologist tells us of their wonders, he just as surely tells of the cruel conquests that built them up, and the merciless invasions that finally reduced their greatness to nothing but a tradition. The veil has been drawn a little to one side, and we see amongst other pictures a tyrant of the ninth century B.C. ravaging and plundering in all directions, accumulating slaves and wealth in Nineveh so abundantly that he is at a loss what to do with one and the other. What is he to do under the circumstances? Why, call in the famous architects of his day, have a competition, and put up the biggest thing on earth in the way of a palace, so that all the world may judge of his power. He selects the city of Calah for his purpose. Those able delvers in the past who have made a special study of the ruins of Calah, astonished at the treasure they found under the mound Nimroud, have attempted to reconstruct the general aspect of the city in the days of this ruler. It is an impressive picture, which space does not permit me to reproduce. All the

known arts of the time were employed to beautify the palaces terraced one above another; but who, gazing upon them, would think of the pillage and slaughter that underlay their beauty? The matter-of-fact historian summarises this epoch by the succinct statement that "the success of Assyria was due to her military organisation." So, again, Persia on the success of her conquest of Assyria builds up a great empire, whose magnificent architecture is shown by the great hall of Xerxes and other buildings at Persepolis—all founded on the military achievements of Cyrus and his successors.

But whilst, especially in Egypt, these bygone civilisations have left their impress upon our present-day life, their architecture has not so directly influenced ours. Let us, therefore, leave these and look more closely at the two great civilisations of the past whose arts, as almost everything else, have most profoundly influenced us and which appeal most to our imagination—the Greek and Roman. Their arts are inextricably bound up in war and conquest, but we do not as a rule, when studying and admiring their wonderful architectural achievements, give a thought to the part that their success in the art of war has played in the glory with which their monuments have endowed them. This is, perhaps, more especially so in the case of Greece. With Rome we can hardly escape from the truculent bludgeoning of all who stood in her path. Roman "culture" has been so widely hurled that we can see its "concrete" effects even now at our very feet after the lapse of two thousand years. But with Hellenic art our thoughts are not so tumultuously stirred, our mental vision is not drawn hither and thither from one stupendous creation to another east and west, following the tramp of Rome's invincible cohorts with the "official" architect in their train. When Greece is mentioned, strife seems immediately stilled, and we conjure up a single picture; we see through the softening veil of time a single craggy eminence bathed in brilliant sunshine and bearing aloft on its plateau those wonderful creations in scintillating marble that have roused the admiration and stirred the emotions of all subsequent civilised peoples. We see in imagination the city of Pericles, brilliant in its pride of power and beauty and wealth, lying beneath the shadow of the Acropolis, reaching upwards its gorgeous processional way to receive the blessing and protection of its patron goddess, Athena.

Everyone who comes under the spell of the story of the Golden Age in Athens is moved in a different way according to his individual predilections. For the statesman and orator the central figure is, of course, the democratic Pericles, greater than king; for the student and philosopher it is Socrates; but for the artist and architect the supreme gods of Athens are Phidias and Ictinus. If we talk of Greece it is Athens we see, and if our thoughts are directed to the works of other Grecian cities and colonies, such monuments appear to us like children strayed

from the care of an almost over-prolific mother. For the student of our art, no other architectural period in history crystallises itself into one such vivid, clearly-defined vision as springs before his mind's eye in the sun-bathed Acropolis at the thought or mention of Greece. No thought of the fierceness and noise of war intrudes in this picture—a combination of the arts of peace never elsewhere equalled. Egypt crushes us and disturbs with its air of false mystery; Assyria is a blurred picture of despotism; Rome whirls us off our feet and leaves us gasping; Byzantium makes us dizzy with its daring; the Middle Ages hold us breathless as at the struggles of a captive soul to break its bonds and soar aloft on the pinnacles and towers of those triumphs of Gothic art, the outcome of its travail; the Renaissance, like a giant looking round for some inspiration to bring into play his newly awakened energy, still holds us in a mixture of curiosity, doubt, admiration and impatience: Greece alone calms all tumult and gives content to the spirit.

But let us take our eyes for a moment from this picture of perfection and look at the pigments from which the Master Painter has produced it. Let us take the cold facts of history, and what do we find underlying the brilliancy of the Golden Age? War, war, bloody war! What is the secret of Athens' greatness?—her army, her navy. Not, it must be admitted, the secret of her genius, but nevertheless the nourishment without which the tree would never have blossomed with the luxuriance of the Periclean age. Much genius is lost to the world because of the lack of the conditions necessary to its unfolding. Why did Sparta, its great rival, and the other free cities of Greece, fail to produce anything comparable to the intellectual and artistic achievements of Athens, whose men of genius were drawn from all part of Hellas? Because the necessary wealth and power were lacking to them, for even Pericles without these would have failed to get his opportunity.

Persian lust of conquest made possible the Golden Age in Athens. In 490 B.C. her fate seemed sealed, for was not Darius about to extend his kingdom westward, walking over Athens' "contemptible little army" en route? But a little surprise awaits him on the plains of Marathon. He recoils to recover himself while Athens collects the spoils of victory, and thenceforth a new era dawns for her; literature and the arts revive. Darius does not live to punish her insolence, and for ten years she is allowed to prepare for his successor's inevitable onslaught. She has a good man, in Themistocles, at the Admiralty, who, with a big navy party, provides her during this time with the wooden walls which are to save her. Xerxes, with his enormous army, prepares for the conquest of Europe, commencing with Greece.

There is something strangely familiar about old Xerxes, the all-powerful—if not the almighty—as Herodotus portrays him. Listen to this, his

address to the Junker princes of Persia:—"You will remember, O Persians, that I am not about to execute any new project of my own; I only pursue the path marked out for me. A deity is our guide and auspiciously conducts us to prosperity. It must be unnecessary to relate the exploits of my forefathers. For my own part, ever since my accession to the throne, it has been my careful endeavour to uphold the Persian power undiminished. My deliberations on this matter have presented me with a prospect full of glory; they have pointed out to me a region not inferior to our own in extent and far exceeding it in fertility, which incitements are further promoted by the expectation of honourable revenge. I have resolved, by throwing a bridge over the Hellespont, to lead my forces into Athens and inflict vengeance for the injuries offered to Persia. Considering what is due to Darius and to Persia, it is my determination not to remit my exertions till Athens shall be taken and burned. If we reduce our neighbours, the Persian empire will be limited by the heavens alone; the sun will illuminate no country contiguous to ours" (you see he wanted a place, indeed the only 'place in the sun'), "I shall overrun Europe and possess unlimited dominion. There exists no race of men, nor can any city or nation be found which, if these be reduced, can possibly resist our arms." And so on. Change the Hellespont for another streak of water that we wot of, and substitute Western for Eastern names, and you have annihilated time; Xerxes and his hosts are reincarnated.

The invincible foe strikes. You know the amazing story: the destruction of Athens, but the swift and decisive revenge taken by her gallant little navy against the cumbersome might of the Persian armada; Persia's hope of world power is for ever quenched. The impossible has happened, and Athens emerges as the guardian city of all Hellas, with a subsidy from all her Grecian Allies to maintain a fleet for their common protection. Bursting coffers and a prodigal outlay result, and she sets to work to make herself supreme in visible splendour. The brilliant conceptions of Pericles materialise under the unrivalled skill of Phidias, and nurtured in war and under the sceptre and blessing of Minerva the Goddess of War, the inherent genius of the Greek people grew to a god-like stature, and gave us that marvellous expression of creative power whose radiance encircles the globe and makes earth a second Saturn.

But if the Hellenic spirit survives, like the light still reaching us from a long dead star, the Hellas that breathed it forth succumbs, and a new star, in the Macedonian Alexander, catches the glow from dying Greece. Possessing the martial spirit of his father and a burning enthusiasm for the heroic age of Homer fostered in the school of Aristotle, Alexander the Great dominates by force his greater neighbour and becomes himself a Greek. Then, with the unbounded optimism of youth, brilliant in mind and supreme as a military leader, he started on his world

conquest. Strong in his belief in the greatness of Greek culture, if his ambition is to extend his dominion to the limits of the world, he is none the less imbued with the idea of making all the conquered races partakers of that superiority which the title of Greek implied. If he destroyed great cities such as Persepolis and Susa, and subjugated at the point of the sword Persians, Indians, Egyptians, and all who stood in his way, did he not found many cities, one at least of which has laid under tribute all subsequent European states, Alexandria? This was the real centre from which radiated throughout the world the arts and philosophy of Athens.

The modern emulator of Alexander and would-be sower in other peoples' field of a special culture, spelt with a capital "K," while he bases his operations on the carefully prepared and swiftly striking strategy of the Macedonian Greek, adopting also his destructive and ruthless methods, differs from his prototype in that his brand of culture is inferior to that which he proposes to supplant. Great as was the Persian Empire, its life in the great cities was becoming rotten through luxury, despotism, and lust, and probably Alexander unconsciously did no bad thing when he permitted fire and sword to do their work. The conquest of Persia let free forces which have led to progress, and which Eastern civilisation would have held in its enervating and unyielding grip. Thus Alexander on a wave of war deposited on the slopes of the Mediterranean the beautiful city of Alexandria, a fount of learning from the refreshing stream of which all the world drank deep.

Greece disappears, and now Rome and Carthage are at death grips. Both have developed great power by might of arms, but Carthage appears to have been essentially a nation immersed in trade, keen for wealth, and though by aid of the military genius of Hannibal and Hamilcar she taxed to the limit the might of her rival, she produced no art or literature that left a lasting influence on civilisation. She had not the seeds of empire in her, great as were her conquests, and in her long struggle against Rome meets her doom. Carthage at last is sacked and utterly destroyed, Rome exacts an enormous indemnity and sells her inhabitants into slavery. Rome is supreme.

It would appear abundantly evident that of these two great rival Powers growing up side by side, civilisation had infinitely more to gain from Rome than from Carthage. The latter city was equally in a position with Rome to profit by contact with the centres of Greek culture on the Mediterranean and to disseminate it throughout her increasing dominions, but all she appears to have seen in the advanced culture of her Eastern neighbours with whom she traded were the products of their civilisation capable of being treated as merchandise—if she brought many books from the seats of learning, it was that she might vend them as wares for those who fancied such products. If Hannibal had overcome Rome after his marvellous march from Spain to Northern Italy, the

whole of Southern Europe would have been added to the Carthaginian Empire, and most certainly, instead of the wonderful epochs which succeeded the supremacy of Rome, so rich for us in monuments of man's constructive genius, a long period of stagnation, if not reaction, in art and literature would have ensued. Think of it, but for the power of Rome by might of arms to impose her will on the known world, we would never have known those indelible chapters in architectural history, the reading and study of which mould the minds responsible for the outward form of our present-day cities: Imperial Rome, Byzantium, Mediæval Europe, Renaissance Italy and France. If Rome wiped out a great city like Carthage, she gave posterity ample compensation.

But in Rome, as elsewhere, we cannot escape from perpetual conflict; if she is not waging wars of defence or aggression on her borders, she appears to be ever in a state of internal ferment. Need one say anything about the conquest of Greece by Rome with its effects on the arts of the Romans—the military activities and rivalries of Cæsar and Pompey, and of Augustus and Antony—all leading up to the Golden Age in Rome ushered in by Augustus Imperator some thirty years before our era—Augustus the transmuter of Republican brick into the marble of Imperial Rome. Peace arrives, the first for two hundred years. So great is the joy that thanks are conveyed for this new fortune by the erection of temples and altars to the glory of the Imperial peace. But what is this peace? Of the eleven Emperors included in the first century and a quarter of the Empire, eight met with violent deaths. As a matter of fact, the Emperor's power rested on the Army, he being but its nominee, and Rome's position as mistress of the world was due solely to her legions. The first century of the Empire is a military despotism, and whence think ye comes the wealth to burnish this hub of the wheel of Empire if not by way of the famous Roman roads which are as the supporting spokes? Listen to the historian: "The bounds of the Empire extend from the Euphrates to the westernmost promontory of Spain, and from Egypt to Britain. About this territory is drawn an impregnable cordon of soldiers. Almost four hundred thousand men make up these legions. Remove that barrier and the Empire of Rome would shrink in a day from its world-wide boundaries to the little peninsula of Italy, if not to the narrow confines of the City of Rome itself.

"And why should it not be removed? What matters it to the citizen of Rome that his name should be a word of terror to the uttermost nations of the ancient world? It matters everything; for these outlying provinces supply the life's blood of the Empire. From these wide dominions all roads, as the saying has it, lead to Rome, and every road is worn deep with the weight of tribute. In the time of Augustus it is estimated that the yearly tribute from the provinces amounted to from fifteen to twenty millions of pounds. This was tribute proper, the literal price of peace; but

Rome was the world emporium, and all transactions of the market had to pay a percentage for excise. Rome might well be a glorious city, with her renovated Forum, her new Capitol, her triumphal arches, her stupendous Colosseum; she is indeed a city of marvels."

The subject is inexhaustible; wherever the legions of Rome are found, there is seen the evidence of her skill in architecture and engineering; but we must jump the centuries of her gradual downfall, glancing as we go at that last manifestation of her greatness when she gathered together her waning forces in one supreme effort before sinking back exhausted and dismembered, and gave to the world the re-born Byzantium with its Eastern Roman arts culminating in Santa Sofia; this at a time when Western Europe is entering upon the Middle Ages, that dark period which was to obscure for centuries the antique civilisation with which she had been for long in contact.

How does Constantinople achieve its greatness? Why does the Emperor who gives the city his name desert Rome and set up his capital here? Was it because he had turned Christian and wished to free his empire from the still potent influence of the pagan atmosphere of Rome? Rather was it a feeling of insecurity in view of the danger from the increasingly active Goths, and the wisdom and foresight to see that the city of the Golden Horn meant, by its unequalled position, the retention of his still great empire. But for the warring instincts of barbarian hordes, Constantinople as we know it would not have come into existence. Another city like Rome, built on seven hills and rivalling in pretension its great prototype, it gave birth, by a fusion of Eastern and Western antiquity, to the great civilisation to which we are indebted for that architectural wonder, Santa Sofia. At the smallest computation this work cost £1,000,000, and owes its existence to the warlike and rapacious Justinian.

And what of the Saracenic civilisation rising from the fanatical attacks on all unbelievers by the Prophet of Allah in the sixth century? Cannot we trace that wonderful chapter of high attainment to the spreading of Moorish culture on the point of the sword? Can we not see, behind that feast of glowing colour and lying in the shadows of that sensuous architecture typified in the Alhambra, the blood and wealth of conquered unbelievers? But if this tide of conquest and culture flowed over from the shores of Africa into Spain, as did that of Carthage before it, it failed to force the barrier of the Franks in Gaul, or who knows what might have been the course of our art in the Middle Ages? Something brilliant, no doubt, but not finer than the Christian Church has left us.

And can we disassociate those glorious monuments of feudal and Papal times from the clash of arms? How much do we owe of that religious exaltation out of which soared those towers of Chartres, Beaulieu, Vendôme, to the wars on the Saracens for the conquest of Jerusalem? Had the Crusaders nothing to do with the intense fervour of spirit which sought to

give itself utterance in shrines worthy of that Saviour for Whom they fought and Who had entered into the lives of the people, a very beacon to lighten the gloom in which they struggled? Peace, you say; where was the peace for those millions under the feudal yoke? Only in the spirit created by the desire to escape from conditions where there was no peace. And that groping yet soaring spirit we see materialised in the great structures of the Middle Ages. War and servitude at the root.

Then take the cities of the Hansa League which grew up all over the North of Europe. Was not the very idea of living together in these communities and surrounding themselves by walls due to the greater security that could thus be obtained from the attacks from the Eastern barbarians? Architecture and the Arts in Germany could hardly have existed otherwise in the Middle Ages. "But," you ask, "if there had been no war from the East, would there not have been, with the absence of fear and uncertainty, greater development of the arts of peace?" No, for a scattered pastoral people could never have done what this great confederation achieved by combined effort and the wealth of commerce which ensued, the direct result of city life.

Again, what is the story of the wonderful cities of Italy, irresistible in their fascination for the architect, growing up at the same time? We have heard a great deal lately about the modern Huns and their pinchbeck Attila, but who would think of associating their prototypes with the foundation of that wonderful city, the Queen of the Adriatic? Yet, but for these fierce, ravaging hordes from the North of Europe in the fourth century, it is extremely unlikely that any such city would ever have existed. When the destroying and conquering Huns were at last held up and defeated on the very site between the Marne and the Aisne whereon their modern descendants were so recently beaten back, they escaped across the Alps into Northern Italy. There the peaceful inhabitants fled before them, part taking refuge on those sea-girt islands where still stands that once all-powerful city of Venice, so rich in interest for the architect. Think of the glory she achieved—what a chapter to stir the pulses. War gives her birth, war is the scaffolding by which her power reached so high a pinnacle.

Florence, Pisa, Genoa, and all the others, where do you find a greater output of the Arts? True it is they are associated with peaceful commerce and contact with each other and distant centres of industry and learning; but how the flame is fanned by the breath of strife. Recall Benvenuto Cellini and the hot pulsation of battle that coursed through the veins of him and his contemporaries, now moribund and only waiting to be galvanised into life again by—what?

And what a spurt and fillip is given to the Renaissance by the thrusting spears of the Moslems. The imminent fall of Constantinople threatened by the

Turks, let loose a flood of learning which poured into the West; scholars and artists flying into Italy, and so, like a forced blast, fanning the flames of awakening interest in classic lore and art.

Open Mr. Ward's excellent work on the French Renaissance, and you immediately plunge into the Italian campaigns of the French Kings Charles VIII. and Francis I., as a necessary prelude to the opening of the sluice-gates of Italian culture—war and architecture going hand in hand. And so the tale goes on, inexhaustible in its fascination and volume.

I fear I have already tested your patience by this long recital, but my real object in concentrating your attention on war in relation to architecture is to ease for a moment the strain which a too close view of the present conflict is putting upon us all. Let us lift our mind's eye from the year 1914 and cast a wide sweep over the illimitable plains of time, and try to see these present events as but an incident in the march of man's destiny, and judge from what we can see behind the effect upon its advance. A period of growth, always with a strong military accompaniment, leading to a great crisis, appears to have been an outstanding characteristic of certain great nations. And only when this crisis is safely passed do we see appear the Golden Age with which a distinctive style of architecture is associated.

History never quite repeats itself, yet when we find two sets of conditions, however widely separated in time, approximating to each other, we may expect the outcome of these respective conditions to have something in common. Now, in taking our backward glance through time, the vision is irresistibly arrested by a struggle which strikes one as bearing a strong resemblance to the present conflict; Rome and Carthage have reached a crisis in their fortunes; the fate of one or other is about to be sealed for ever. The two can no longer exist side by side.

Now, I seem to see the same tragedy being re-staged, with Britain in the rôle played by Rome; the same fierce contest for mastery over a foe so redoubtable that the result trembles in the balance. Up till then Rome's title to a supreme place in history has not been earned; it was only after the final destruction of her only serious rival that the brilliancy of the Golden Age of Augustus dawns.

Britain's fate is now trembling in the balance. Up to now where is her title to a place among the epoch-making periods in the history of the Arts? Like Rome, she has been growing, imitative rather than creative; but like Rome, her foe overcome, as assuredly will be the case, I see her marching to her Golden Age, and the architecture of Imperial Britain will flame out for the wonder and guidance of future ages. Why not? The flickering fire of the Renaissance is on the wane, and another torch is about to be ignited at its dying embers, and which amongst the nations will or can clasp it if not Imperial Britain? A greater than Rome, and with all her many faults, her material might, and

above all, her spiritual force, makes her alone among all the nations worthy of this great trust. But before she can enter into her heritage, she must be strong, and face with courage and fortitude the fierce but cleansing fires into which her mighty destiny is carrying her. The price is bitter, but if we could see into the future we might consider it small for so great an advance in the upward progress of man as we assuredly are called upon to lead.

We can smile with indulgence on those pessimistic critics who bemoan the waning greatness of Britain, her decadence, and her unworthiness of her past greatness. How human like, it recalls to our mind the very modern moralising of old Ptah-hotep who, in the 12th Dynasty, 4,000 years ago, sighs for the good old days in Egypt when his country was great.

"Men perish, but man shall endure; lives die, but life is not dead."—SWINBURNE.

This war, which grows in fury as I write, and extends from nation to nation, carrying its blows into the farthest seas, dyeing more deeply than ever before, the soil of Mother Earth with the blood of her sons, is big with fate; it closes one of the great scenes written by the Divine Dramatist. But "the moving finger writes; and, having writ, moves on."

The curtain is about to rise upon a new scene. How I envy those who can take a leading part in this greatest of acts—the young man, full of vigour and youth, conscious of the power he wields in the shaping of his country's destinies. Can there be a true son of Britain who will hang back when such a chance offers? It is difficult to believe, but when I hear that architectural classes are bigger this session than usual, I marvel; there must be men amongst these students whose duty lies elsewhere. Many there are who cannot, to their sorrow, answer the call; but what of those who can, and yet elect to continue their studies?

Though beautiful buildings that have stood the test of time are crashing to earth and disappearing for ever under the blows of war, this is no time for bemoaning their fate or studying the art of building new; fine monuments and great cities in the past have been entirely obliterated, and may be again, but never has the womb of time held in the balance a fate so momentous as that now confronting us. It is not the loss of a few delicately worked fabrics of stone, it is the threatened destruction of the mightiest construction yet achieved by man—the fabric of the British Empire.

Let me appeal to those whom this will reach, who are eligible, to put into effect those qualities of devotion and courage and patriotism which I am sure is latent in theirs, as in all blood that courses through a real Briton's veins. What is all your study at this time worth if your country's heritage is lost, and what if you should remain and produce a masterpiece through advantages gained while your friend is sacrificing all in fronting the foe at the gate? You may achieve a name in your art, but your name must for ever be inscribed on the scroll of fame far below

that of him who hesitated not between his professional career and his duty to his country. Your finest creations will do nothing to stem the tide of invasion. Many of our profession have nobly responded to the call, and here is our Society's roll of honour as far as I know it:

MEMBERS—J. W. Douglas, Lieut., Northumberland Engineers; D. Hill, Staff Captain, Northumberland Fusiliers; N. E. Leeson, Sapper, Engineers; G. Reavell, Major, Northumberland Fusiliers; J. Spain, Major, 7th Durham Light Infantry; A. K. Tasker, Captain, Tyne Electrical Engineers.

ASSOCIATES—P. G. Graham, 2nd Lieut., Northumberland Fusiliers; G. E. Hunter, Capt., Northumberland Fusiliers; A. E. Lowes, Northern Army Service Corps; R. Maughten, 2nd Lieut., Durham Light Infantry; S. W. Milburn, 2nd Lieut., 3rd Northumberland Royal Field Artillery; W. Milburn, jun., Lieut., 3rd Northumberland Royal Field Artillery; W. W. Nimmo, The Artists; W. W. Tasker, 2nd Lieut., Engineers; B. Watson, The Artists; A. W. Wilkinson, Lieut., 9th Durham Light Infantry.

STUDENTS—H. St. J. Harrison, Officers' Training Corps; J. Hill, Hon. Artillery Company; W. N. J. Moscrop, 2nd Lieut., 6th Durham Light Infantry; T. A. Page, Lieut., Durham Light Infantry; W. J. Smith, Trooper, Northumberland Hussars (Imperial Yeomanry); S. Wilson, Private, Northern Cyclists.

These gentlemen will take pride of place in our annals, but there is no excuse for any amongst us who are eligible remaining by our boards or courting the fruits that business may offer, while the call to arms is ringing throughout the land.

Rouse ye, ye builders! Cannot you hear the crumbling and cracking of the doomed walls of nations? Does not the sight of those slowly raised and mighty structures of Empire tottering from the impact of the thunderbolts hurled by one against the other stir your innermost being? One at least of these empires will survive, and with renewed vigour repair her damaged walls and raise anew with greater grandeur the towers of a loftier civilisation. But which? You are surprised if not pained at such a question. There can be but one answer, you say. Quite right, there is but one answer if you are content to entrust your country's position to your neighbour. It will be the citadel of your enemy that will survive. This concerns you, each of us, and if you wish to see the British Empire emerge greater than ever, now is the time to engage in a finer work of restoration, rebuilding, and extension than ever you dreamt of when you took up architecture for a career.

You cannot prop her threatened walls with a T-square, nor tie them together with a tape line; you cannot, by studying the strength of materials and graphic statics, judge whether she is capable of resisting collapse; you cannot, by following the birth and progress of architectural styles, say whether she has outlived her strength, or is still in the prime of her life. No; fling from you till a more fitting time your T-square and the tools of your trade, pick up the spade of the sapper, learn to pontoon the flowing river for the advancing hosts of your brothers-in-arms; by such engineering will you ensure the stability of the walls of our Empire. Thrust back to their shelves your Rivingtons and your text-books on

strains and stresses, shoulder a rifle, or work the breech-block of a quick-firer: so only will you ward off the forces that would bring about her collapse. Shut up your histories of styles, seek in the stories of Britain's heroes and learn the history of her past, and by falling in at the bugle's call add the fuel of perennial youth to the fires of her greatness.

*Aux armes, citoyens! Formez vos bataillons!
Marchons, marchons!*

THE VICTORIA MEMORIAL.

SOME ten years have elapsed since the Victoria Memorial design was finally approved and the work commenced. The bronze groups which are now being fixed signify the approaching completion of the work, and when the symbolical figures over the fountain arches to the north and south are in position it will be possible to judge fairly the whole design, for these will have some considerable value in its breadth and significance.

It has, of course, been always recognised that this great national memorial was mainly the project of a sculptor, and the significance and importance of the sculptor's art the first consideration: the work of the architect simply consisting in arranging an adequate and appropriate setting to the sculptured group. There is a completeness and unity in the whole result which must be judged mainly from the point of view of the sculptor. In one respect it must be allowed, whatever criticism be directed against it, that the final effect bears the impress of an essentially English tradition. The English point of view does not favour heavy monumental inclosures, but finds greater satisfaction in large and free open spaces, and in the setting and environment of this memorial we see that the English love of spaciousness and freedom has had the chief consideration. If this results in the lack of dignity which comes from architectural impressiveness it may at least be said that it is more in sympathy with English ideas. At all events, judged from the point of view of the author of the design, no one can fairly question its great success. Neither, I venture to think, can the significance of the whole be overlooked or underrated.

It must be felt by all that the crowning figure of Victory has never been used on any memorial in the world before with more complete justification. The life of Queen Victoria was crowned with rich rewards for her people and herself, and the Memorial design symbolises the two-fold aspect of this victorious life. The figure of Victory stands on a globe, at either side of which are figures of Courage and Constancy, which were crowning virtues in the Queen's life. The seated figure of the Queen is full of dignity, and is supported on the north and south sides of the pylon by groups representing Truth and Justice. On the west side, facing the Palace, is a fine figure of Motherhood,

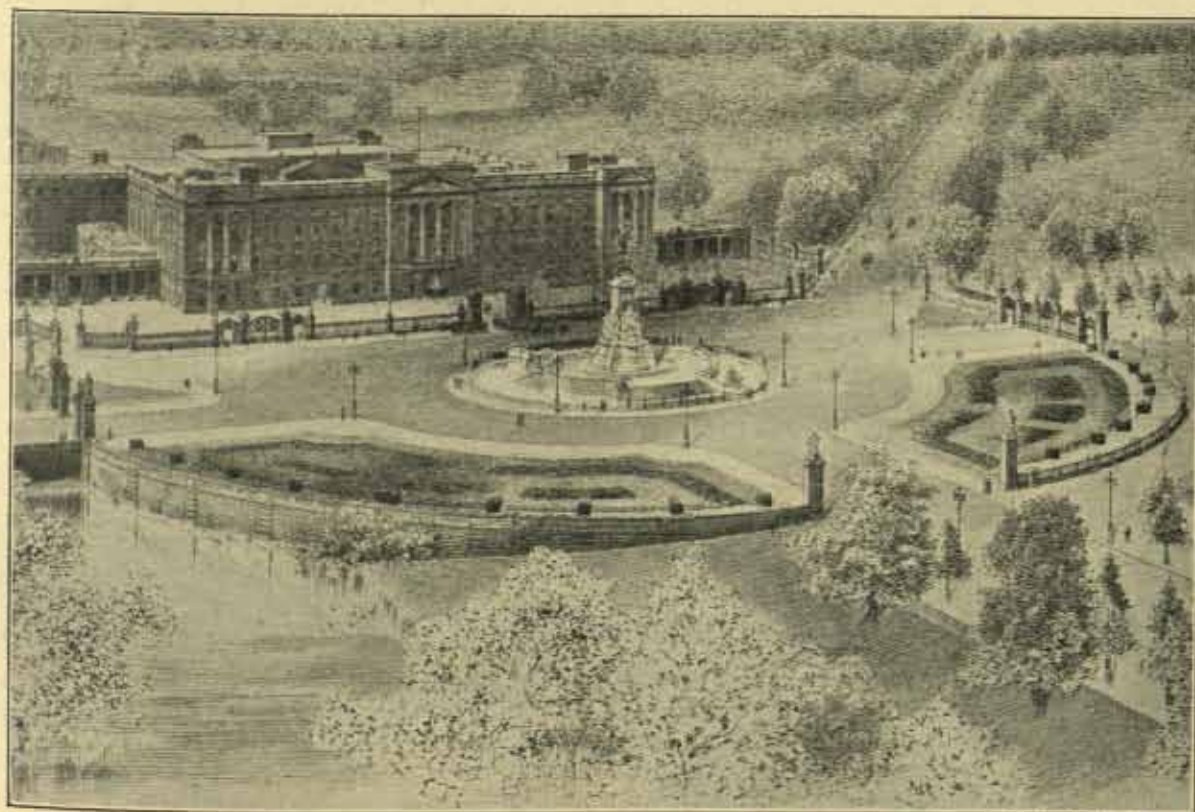
typifying the Queen's motherlike care of her people. The whole base is suggestive of the foundation on which the greatness of the British Empire has been built, the love of Peace, the pursuit of Industries, supported by Maritime Power, which is symbolised by the fountain basins (with adornment of mermaids and Tritons) and the ships' prows which give form to the spreading lines of the base. Both strength and refinement mark the sculpture, and it must assuredly touch the sentiment and feeling of the English people in a way and to an extent which none of the more severe austerities of classic art could reach. Sir Thomas Brock has produced a large amount of splendid work elsewhere, but it seems to me that he has concentrated in the various figures and groups of the Victoria Memorial some of the finest and most successful examples of his art.

In considering this important essay in civic adornment one cannot avoid comparing the attitude of our city authorities towards the public with that adopted abroad. In other countries the people are trusted and allowed to have flowers and grass about the streets and public places; they may walk up to palaces and sit down on seats in public thoroughfares. Here we put a great railing between the Victoria Memorial and the Palace (which spoils both), and we are afraid to give the public seats along the Mall or round about the Memorial. Sir Aston Webb's first design, to place

the Memorial within a Queen's Garden (where people might sit and enjoy the sight of flowers) and to make the roadways curve round it to north and south, was felt by many of us to be a far finer scheme than that now chosen. Why it was changed I have never yet learnt, for the King and Queen always took special pleasure in seeing their people round about them, and I always remember a characteristic remark of King Edward's, "We like to see the people." However, the Memorial now completed, with its great enclosure, its finely sculptured piers, its handsome gates, and its fine approach roadway, will for long years to come speak of the ability with which both architect and sculptor have carried out their long and arduous task.

There is only one thing lacking now to round off and really complete this great memorial. That is to make Mr. Bertram Mackennal's equestrian statue of King Edward an essential item in the whole. I have in my possession scores of letters from some of the most distinguished men in England, who subscribe to this opinion. The King Edward Memorial Committee bar the way. Can they not be induced to listen to the appeals of so many whose judgment is to be regarded, backed up as they are by resolution of the London Society, and seriously consider this way of fully symbolising the greatness of the Victorian epoch?

T. RAFFLES DAVISON [*Hon. A.*].



The Victoria Memorial (Sir Thos. Brock, R.A., Sculptor; Sir Aston Webb, R.A., Architect.)

CORRESPONDENCE.

The Architecture of Humanism.

5 Via delle Terme, Florence: 1 Dec. 1914.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—I have read Mr. Ball's long article in the November JOURNAL with great interest, but, as I think he gravely misdescribes my argument, I hope you will allow me space for one or two quotations.

(1) Mr. Ball says, "Architecture is a constructional art. . . . Mr. Scott calls it an art of form; well then, of structural form, not of abstract form. Is there really such a thing as abstract beauty of form?" Here and elsewhere it is suggested that I plead for abstract form as opposed to structural form. Yet I have written explicitly, "Architecture, realised aesthetically, is not mere line or pattern. It is an art in three dimensions, with all the consequence of that. It is an art of spaces and of solids, a felt relation between ponderable things, an adjustment to one another of evident forces, a grouping of material bodies subject like ourselves to certain elementary laws. Weight and resistance, burden and effort, weakness and power, are elements in our own experience, and inseparable in that experience from feelings of ease, exultation, or distress. But weight and resistance, weakness and power, are manifest elements also in architecture, which enacts through their means a kind of human drama. Through them the mechanical solutions of mechanical problems achieve an aesthetic interest and an ideal value. Structure, then, is on the one hand the technique by which the art of architecture is made possible, and, on the other hand, it is part of its artistic content. But in the first case it is subject to mechanical laws purely, in the second to psychological laws." (*Architecture of Humanism*, p. 118.) Again: "Mr. Scott seems to think, if we understand him, that the less the constructive element is allowed to obtrude in architecture, the better for the aesthetic." I can only refer Mr. Ball to page 110: "No doubt when this can be done (i.e. when the mechanical construction can be made identical with the aesthetic construction) it is the simplest and most straightforward way of securing good architectural design." And (p. 120): "The art of architecture studies not structure in itself but the effect of structure on the human spirit. It learns where to discard, where to conceal, and where to emphasise the facts of construction. It creates by degrees a humanised dynamics." All I claim is that "the aesthetic efficacy of structure does not develop or vary *pari passu* with structural technique."

(2) Mr. Ball has surely overlooked the important distinction between Romance and Romanticism. "All art is romantic," he says. Certainly, in a sense; although it is perhaps unnecessarily confusing to press the epithet upon classical art (I have attempted, pp. 63, 64, to define how far this can be done). But Romanticism, as I speak of it, is merely the peculiar attitude which was engendered by the Romantic

Movement, leading, in architecture, to a confusion between poetical and plastic values. And I have expressly admitted that in this sense mediæval architecture, though primarily of "romantic" interest to us, was primarily of scientific interest to its builders; also that the Renaissance architects, by their poetic sensibility towards the antique, were essentially romanticist; but they did not allow this to blind them to the essential limitations of architectural art. On these points I do not believe that I am at variance with Mr. Ball; but it is here that I am conscious of what he calls "the injustice of fragmentary quotation."

(3) As to Baroque architecture, I would draw Mr. Ball's attention to p. 186 (note) and p. 193, where I emphasise the fact that Baroque art, "by its comparative freedom from the pressure of structural law," is open to peculiar dangers and demands peculiar genius. But I have also, I think, shown that if I am right (as Mr. Ball seems to agree) in my definition of the humanist basis of all good architecture, then Baroque architecture at its best falls within that definition, and that the arguments which have been brought against it upon points of principle cannot be maintained. As against this Mr. Ball replies: "It will be enough to say that Baroque architecture is *eccentric*." I submit that it is not enough. Certainly the word "baroque," when it was first used, meant eccentric, and eccentric in a bad sense, just as "Gothic" meant barbarous in a bad sense; but in the one case as in the other the word has come to be extended to a whole period. And against the architecture of the seventeenth century, governed by the supreme genius of Bernini, and now generally called baroque—the architecture in fact of which I speak—it will not "be enough to say it is eccentric." "For" (to quote Mr. Ball) "no theory of architecture has the smallest chance of finding acceptance which cannot be applied impartially to all the various manifestations of the art." The Gothic style, about 1740, inspired the then Earl of Cork with "an uneasy mixture of admiration and contempt," and the same seems to be true of the baroque style in relation to Mr. Ball. We have still to discover what in fact constitutes true eccentricity in architecture, and precisely at what point the baroque is culpably eccentric; and this, if my argument is correct, can only be done by applying the principles of Humanist Design.

(4) And with regard to this—the more constructive portion of the theory—Mr. Ball's suggestion that I do "not realise how important, how comprehensive, it really is" does too much honour to my modesty; and if, as he complains, I have treated it in a condensed form, it is only because (as—once again—is several times mentioned) I intend to elaborate it fully in a second volume. Meanwhile, as a beginning, it seemed wise to try to dislodge some venerable dogmatism. To this task I have given a certain space: too much, according to Mr. Ball; or, as he has now persuaded me, too little!—Yours faithfully,

GEOFFREY SCOTT.



9 CONDUIT STREET, LONDON, W., 19th December 1914.

CHRONICLE.

Last Monday's Paper at the Institute.

Mr. Joass's Paper on "The Work of the late John Belcher, R.A.," attracted a numerous company, and the evening was a very interesting one. A large collection of slides was shown illustrative of every phase of the master's work. Among those who took part in the discussion were Professor Beresford Pite, Sir William Plender, Past-President of the Institute of Chartered Accountants, Sir Wm. Goscombe John, R.A., Sir Aston Webb, K.C.V.O., R.A., Sir Ernest George, A.R.A., Dr. Chalmers Mitchell, Secretary to the Zoological Society, Mr. Edmund Gosse, C.B., LL.D., Librarian to the House of Lords, and the President. The Paper will appear in the January issue.

R.I.B.A. Record of Honour.

According to the latest returns, the number of members on active service is as follows: 25 Fellows, 173 Associates, 63 Licentiates, 113 Students—total 374. The Fifth List of names on the Record of Honour will appear in the next issue.

The deepest sympathy is felt with Mr. A. G. R. Mackenzie [Associate 1901, Fellow 1913] (son of Mr. A. Marshall Mackenzie, LL.D., A.R.S.A. [F.]), who went to the front with the London Scottish, was severely wounded, and has now had to suffer amputation of one of his legs. He lies in Hursley Park Hospital, near Winchester, and is reported to be progressing favourably.

Architects' War Committee: Civic Survey Exhibition.

An Exhibition of Drawings, forming part of the London section of Professor Geddes' Collection, has been held during the past week at the R.I.B.A. Galleries, opening on the 15th and closing to-day, the 19th. These drawings have been prepared and collected in order to replace in part Professor Geddes' fine collection which was lost on its way to India in the steamer *Clan Grant*, one of the victims of the late German cruiser *Emden* [see JOURNAL, 7 Nov. 1914].

Mr. Ernest Newton, A.R.A., President R.I.B.A., presided at the inaugural ceremony, and the Exhibition was formally opened by Lord Peel, Chairman of the London County Council.

Mr. Newton, having explained the purpose of the collection, made the interesting announcement that many of the drawings had been prepared under the auspices of the Architects' War Committee. This Committee, he said, had in view a scheme of Civic Surveys, by which it was hoped a good deal of work might be given to architects whose practice had been dislocated by the war. To carry this out, however, generous financial support was needed, and at present their funds were very low.

In addition to the War Committee drawings, there were on view maps and plans of old London lent by the London County Council, two large maps lent by the London Society showing the distribution of open spaces about Greater London, and a number of maps, drawings, &c., from the R.I.B.A. Library.

Lord Peel, in declaring the Exhibition open, said that some of the drawings showed that by very small additions, or by connections between parts of London, they might, without even heroic efforts, produce an immense improvement in London town-planning. In the course of his remarks his lordship read an extract from the *Morning Chronicle* of 17th June 1836, which had some special personal interest for him. It ran:

"THE GENERAL ARCHITECTURAL IMPROVEMENT OF LONDON.—We are happy to see that this subject is attracting the attention of Parliament; Mr. Alderman Wood has obtained a select committee to consider the propriety of a large number of new thoroughfares for London. Sir Robert Peel hoped that an enlarged view would be taken of the subject, and that the House would not fall into the error it had committed with respect to railroads. Perhaps the best mode of proceeding with railroads would have been to appoint competent persons to survey the whole country, and to report upon the most eligible lines; but though it was now too late to take that course, something of the same kind might be done, with a view to the contemplated improvements of the metropolis; and before money of any kind was expended, some foresight ought to be used as to the future extension of London. If Commissioners could be found, in whom the public would have confidence, for a rational and comprehensive plan, it would be a subject of much congratulation."

It was rather remarkable, continued Lord Peel, to compare the attitude then with the ideas of the present day. He spoke not from the technical side, but from the lay side—from the side of those who ought to be influenced by architectural opinion towards the higher interests of town-planning and building. If we turn back to mediæval times, we find that a great deal of attention used to be paid to the planning of streets and the exterior of houses. Nowadays people spent their money on the inside of their houses, and were content with deplorable stucco structures outside. If they would think a little more of the outward aspect of the city and its development it would be better. He was, however, rather hopeful that public opinion was awakening to the desirability of introducing beauty and harmony into the development and planning of our cities. He was well aware of the extraordinary difficulty of dealing with a gigantic city like London, but the efforts made to introduce some sort of standard into town-planning and building were beginning to have effect. He certainly found, in his

experience on the London County Council, that that body were becoming more modest than they used to be with regard to aesthetic questions, and were more ready to follow cultivated and technical opinion and to defer to it. He wished that exhibitions of the kind they were inaugurating that day were more acceptable to the public, and that more of the public would come to them. The drawings shown must be extraordinarily stimulating to those who took an interest in the aesthetic side of a city—in town-planning, in parks, and the larger aspects of civic life. As one of those who had to deal with the largest city in the world, and who was, of course, deeply interested in questions of housing, the improvement of the condition of the people, and of having towns nobly planned, he was personally—and collectively, if he might say so—most grateful to the Royal Institute of British Architects for having organised this exhibition, and he hoped it would have the effect of arousing public opinion to the necessity of living in more splendid, noble, and largely schemed and planned towns.

Responding to the vote of thanks, moved by Sir Aston Webb and seconded by Mr. H. V. Lanchester, Lord Peel said that a large public body like the London County Council must be subjected to criticism, but his opinion was that the helpful assistance which could be given by the Institute was far more useful than all the criticism that could be offered. The Council were doing what they could towards the furtherance of a great aesthetic design for the future of London, and mere criticism was absolutely worthless. They looked for assistance to expert bodies such as the Institute of Architects who were qualified to lead in these matters, and he believed that the assistance of such a body would result in great benefit. If the County Council could have help in that way more would be done to convert London into a beautiful city than all the measures brought forward in Parliament during the last fifty or sixty years.

The Architects' War Committee: Important Undertaking by the Royal Geographical Society.

The Royal Geographical Society has undertaken a valuable and arduous piece of work as an honorary contribution to the Government in the present crisis. This is no less than the compilation of a general map of Europe, on a scale of 1/1,000,000. The work involves much varied and detailed knowledge, including the question of condition of main roads, details of boundaries, which are often ill-defined on existing maps, and nomenclature, which is to be based on the system accepted by the War Office, and which is a matter where unification should be welcomed. The Architects' War Committee, before whom this undertaking has been brought, will be glad if any readers who have either leisure to assist in this scheme or local knowledge which would seem likely to be of value, would communicate with the Secretary, Arthur R. Hinks, Esq., F.R.S., Royal Geographical Society, Kensington Gore.

Care of Ancient Churches.

The Archbishops of Canterbury and York in June 1913 requested Sir Lewis Dibdin, as the Dean of the Arches, in conjunction with other Diocesan Chancellors, to ascertain and report on the steps taken on the issue of faculties for the protection, both on archaeological and artistic grounds, of Church fabrics which have to undergo repair or alteration. Sir Alfred B. Kempe and Sir Charles E. H. Chadwyck-Healey acted with Sir Lewis Dibdin as a committee; and they have now presented their report.

The Committee state that they have had the advantage of full discussion with Mr. Walter Tapper [F.] and Mr. Ernest Newton, A.R.A., President R.I.B.A., who had given the Committee the benefit of their experience and judgment. They had also received valuable information from Mr. W. D. Caroe [F.], who at their request had given evidence before them based on his special experience as Architect to the Ecclesiastical Commissioners.

The Committee report that churches and their contents are placed by law under the care of the Bishop of the Diocese as Ordinary and those delegated to act on his behalf. His jurisdiction, exercised by the Chancellor in the Consistory Court of the Diocese, extends to the control of every change which affects the structure, appearance, ornaments, decoration, or furniture of a church, though in practice it is not asserted in small matters of repair or furnishing. It is pointed out, however, that it would be impossible for churchwardens to discharge their duty of seeing to the upkeep of churches unless some authority independent of, or delegated by, the Ordinary were recognised as inherent in their office. Its extent is to be defined rather by common assent in particular cases than by the general application of precise rules. But if a substantial alteration—even by way of repair, e.g., an entirely new roof—is contemplated, the licence or faculty of the Ordinary is necessary. Especially is this the case with regard to so-called repairs to ancient work which if carried out might impair or otherwise affect historical or artistic tradition.

The report says: "The matters for judicial consideration by the Chancellor in coming to a decision on any application for a faculty (whether unopposed or opposed) are: (1) Whether the proposed change is in accordance with ecclesiastical law; (2) whether in the particular circumstances it is desirable. Under the latter head it is the duty of the Judge to have regard to the convenience and permanent advantage of the parish, to architectural, archaeological and artistic considerations." Faculties involving considerable alteration or renovation of ancient churches are not granted unless an architect of recognised position recommends the work and supervises its execution. The Court in considering an application for a faculty relies largely on the views expressed and the information furnished by the architect in charge of the work. But there exists no uniform or officially recognised machinery by which the Court can obtain skilled and independent advice upon archaeological, architectural, and artistic questions arising on applications for faculties. Notwithstanding the lack of independent expert advice the faculty jurisdiction has been carefully and judiciously exercised, and has been largely effective, in preventing ill-considered changes in the fabrics of ancient parish churches.

Mention is made in the report of the list of 40 churches submitted to the Archbishops and described by the Society for the Protection of Ancient Buildings as cases where "destructive work has been carried out under a faculty since 1896." The Committee have investigated the matter and find that in 21 out of the 40 cases no faculty was obtained. In one case the only criticism is that the church was "entirely restored" by Bodly" (*sic*). By "Bodly" is meant the late G. F. Bodley, R.A., and the inference seems to be that any works suggested by this eminent architect must be harmful. As a matter of fact, the works were of enlargement and adornment rather than "restoration," and were very carefully considered

by the Chancellor. In another case, not only was no faculty granted, but the list is blank as to the nature of the work and the objection to it. In 18 of the 19 cases where faculties were obtained well-known architects were employed—e.g., the late Mr. Hodgson Fowler, Sir Thomas Jackson, the late Mr. Bodley, Mr. Comper, and Mr. Curry. In the nineteenth case the faculty was not for architectural work but for stained-glass windows. In 10 of the 19 cases the allegations of the Society as to removal of work which could have been repaired, as to the fact of removal, as to the antiquity of work removed, or as to the insertion of new work, are categorically denied by those on the spot with intimate knowledge of and responsibility for the churches concerned. In another case (one of the non-faculty group) complaint is made of the refacing of an ancient wall, which, however, seems to have been erected almost within living memory—viz., about 1818. The Committee, nevertheless, recognise the honest intention of the Society in submitting the list and, despite all defects, its value. Every influence which tends to prevent the unnecessary disturbance of ancient work is salutary; it may well be that some of the Society's criticisms are sound, and do not merely depend on the artistic doctrines of a few individuals.

The Committee make several suggestions for the improvement of procedure in faculty suits, for preventive measures, for the supervision of works after the issue of a faculty, and for securing additional coercive power.

"In the opinion of the Committee greater care is needed in the drafting of faculties so that the works authorised may be described explicitly and with adequate fulness. Harm has also resulted from careless or ignorant work done in pursuance of a faculty, which might have been prevented, or at least detected earlier, if it had been somebody's duty to see that the faculty was properly acted on. No part of the evidence given by Messrs. Tapper, Newton, and Caröe, and by Canon Livett, was more impressive than their unanimous insistence on the supreme importance of a suitable selection of the contractor and even of the actual workmen to whom work on an ancient church is confided. It must be confessed that this is a side of the problem with which the faculty system can never satisfactorily deal. More can be accomplished by the informal advice and intervention of the Bishop and those acting under him, but it depends most of all on the architect."

In making their recommendations the Committee have considered how the machinery of the Consistory Courts may be made more effective for the protection of ancient churches from neglect or ill-advised alterations. But they add, "It is plain that no machinery, however perfect, will be of the smallest use for this purpose unless it be used." In the opinion of the Committee the machinery of the Consistory Courts for the proper consideration and decision of cases submitted to them can, without much difficulty or change, be made reasonably effective by the joint action of the Bishops and Chancellors. But in order to make it adequate for the protection of ancient churches it is necessary to enforce (1) applications for faculties in all proper cases, and (2) the due observance of faculties when granted. The fulfilment of these conditions can only be secured by the direct and sustained efforts of the Bishops themselves, first and chiefly by using their very large powers of influence and persuasion; and secondly, if and when necessary, by coercive proceedings to compel obedience to the law.

Postponement of Scholarship Competitions.

It is announced that the Open Examinations for the British School at Rome Scholarships in Architecture, &c., and for the Henry Jarvis Studentship in Architecture, due to be held in 1915, will be postponed for one year. Announcement will be made later of the date by which the works for these postponed examinations are to be submitted. Candidates who would have been qualified to compete for the 1915 Scholarships will not by reason of this notice forfeit their qualification to compete in the postponed examinations.

Underground Water in London.

The unexpected appearance of underground water in connection with excavations for buildings in the metropolis frequently occasions annoyance and expense, and the R.I.B.A. Science Standing Committee are desirous of preparing a large scale map, which, when completed, will be kept for reference on the Institute's premises, to indicate the position of underground water where already observed. It is highly probable that many streams which formerly existed on the surface of the land now covered by London still flow beneath the ground, and by the aid of the proposed map their present course may, approximately at least, be conjectured if not determined.

The Science Standing Committee would accordingly be glad to receive from members of the Royal Institute or other architects information under the following heads of underground water met with in course of building operations or excavations either in the City or the County of London or in Greater London:

- (1) The exact locality.
- (2) Depth at which water was encountered, measured either from the street level, or, preferably, from the Ordnance datum.
- (3) Nature of the soil.
- (4) Date as exactly as possible.
- (5) Permanence or otherwise of the level of the water—i.e., whether the water remained at the level at which it was first observed, rose, or fell. Also whether there was any seasonal or tidal variation of level.
- (6) Manner in which the water was dealt with.

Information should be sent to, and will be thankfully received by, the Chairman of the Committee, Frederic R. Farrow [F.], 12 Gray's Inn Square, W.C.

Commissions in the Army.

It has been suggested that Learned and Professional Societies may do good service at the present juncture by urging the country's needs upon the notice of such of their younger members as are fitted to fill the position of regimental officers. Besides the New Army, which affords good opportunities for suitable men to obtain commissions, provision has to be made for repairing wastage in the Regular Army and in all the successive formations which may have to take the field later. It is desirable, therefore, that candidates should apply at once for commissions in order that their training may begin without delay so that they may be ready for active service immediately they are needed. The Secretary R.I.B.A. has been provided with information on the subject which he will be pleased to supply to members on application.

The Belgian Mission of Art.

The Belgian Mission of Art invite members of the R.I.B.A. to visit the exhibition of pictures by Belgian artists who remained in their country after the German invasion and are ruined by the war. The exhibition, which is being held at the McLean Gallery, 7 Haymarket, W., consists of oil-paintings, water-colours, etchings, engravings, drawings, landscapes, and views of towns since laid waste by the invaders. All are on

sale at very moderate prices. Accompanying each picture sold is a certificate of its origin and of its transport through the German lines by Messrs. Raphael Damman and Armand Du Plessy, Directors of the Exhibition. The sale of the pictures would be a great help to the distressed Belgian artists, and the opportunity is a favourable one for purchasers of Christmas presents. The exhibition is open from 10 a.m. to 6 p.m. (Saturdays 10 to 1).

THE EXAMINATIONS.

The Final: Alternative Problems in Designs.

Instructions to Candidates.

1. The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9 Conduit Street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, AND HIS FULL NAME AND ADDRESS, and the name of the school, if any, in which the drawings have been prepared, must be attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the Student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the Student may profit by advice.

4. Drawings for subjects (a) are to have the shadows projected at any angle of 45° in line, monochrome, or colour. Drawings in subjects (b) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

Subject XIX.

(a) A MEMORIAL TO LORD ROBERTS overlooking the training ground of a Garrison City; on a low hill rising with a general inclination of one in five. The Memorial is to stand on the summit of the hill upon a level plateau about 80 feet in diameter. The height of the Memorial is not to exceed 120 feet.

Drawings.—General plan to $\frac{1}{8}$ -inch scale. Detail plan (so far as may be necessary), elevations and sections; scale optional.

(b) A GARAGE FOR A LARGE COUNTRY MANSION. Provide for four owner's and four visitors' cars, and washing place; residence for chief chauffeur, and sleeping accommodation for four visitors' chauffeurs. Provide also accommodation for artesian well, pump and water tower, to supply the mansion; electric lighting and power plant, engineer's workshop; heating, fuel store, and incidental requirements to be provided. The site is not limited; the courtyard type of plan is suggested.

Drawings.—Plans, elevations and sections to $\frac{1}{8}$ -inch scale, and $\frac{1}{4}$ -inch detail of a portion.

Subject XX.

(a) A FACADE for an important firm of Fine Art Publishers, in the principal street of a Capital City. Width of site, 36 feet (between buildings). Height not to exceed four floors above pavement line; there is to be a Shop Front on the ground floor, and a separate entrance to a fine art gallery on the first floor. The facing material to be generally of stone, but brick is not to be used.

Drawings.—Plans at ground and first-floor levels showing arrangement of façade elevation and section. All to $\frac{1}{8}$ -inch scale.

(b) A DETACHED SWIMMING BATH FOR A BOYS' PUBLIC SCHOOL. Bath not to exceed 70 feet in length.

Drawings.—Plan, elevations and longitudinal sections to $\frac{1}{8}$ -inch scale, and a cross section through bath to $\frac{1}{4}$ -inch scale.

Subject XXI.

(a) A BAND STAND IN A PUBLIC PARK to accommodate 20 performers. To be arranged as a large alcove in connexion with a colonnade.

Drawings.—Plan, elevation and section to $\frac{1}{8}$ -inch scale. Details to $\frac{1}{4}$ -inch scale.

(b) A HOSTEL FOR MALE STUDENTS ON A DETACHED SUBURBAN SITE to accommodate 30, and to include a suite of rooms for married warden.

Drawings.—Plans, elevations and sections to $\frac{1}{8}$ -inch scale.

Dates for Submission of Designs in 1915.

	Subject XIX.	Subject XX.	Subject XXI.
United Kingdom ...	27th Feb.	30th April	30th June
Johannesburg ...	30th April	30th June	31st Aug.
Melbourne ...	30th May	31st July	30th Sept.
Sydney ...	30th May	31st July	30th Sept.
Toronto ...	31st March	30th May	31st July

The Final: Designs approved.

The Board of Architectural Education announce that the designs submitted by the following Students who are qualifying for the Final Examination have been approved:—

SUBJECT XVII.

(a) DESIGN FOR AN ELEMENTARY MIXED SCHOOL.

Aslin: C. H.	Holden: W.	Palmer: J.
Bisiker: R.	Keep: N.	Pieton: C. S.
Brown: J. McL.	Lancaster: C.	Pite: I. B.
Brown: W. J.	Langrish-Toye: F. C.	Routley: L. J.
Dailey: A. B.	Loweth: S. H.	Smith: T. H.
Dougill: W.	Middleton: V.	Tanner: A. S.
Filkins: E. W.	Minns: S. E.	Walker: H. F.
Hall: R. B.	Mitchell: C. H.	Watt: W. J.
Harland: N. G.	Nathanielcz: J. J.	Whitehead: P.

(b) DESIGN FOR A CONCERT HALL.

Derry: D. C. L.	Gooder: F. E.	Lyne: E. J. D. J.
Dodd: R. F.	Howcroft: G. B.	Shearer: T. S.
Evans: T. C.	Hull: V.	Takakoshi: K.

MINUTES. IV.

At the Fourth General Meeting (Ordinary) of the Session 1914-15, held Monday, 14th December 1914, at 8 p.m.—Present: Mr. Ernest Newton, A.R.A., President, in the Chair; 24 Fellows (including 10 members of the Council), 38 Associates (including 2 members of the Council), 9 Licentiates, 2 Hon. Associates, and numerous visitors—the Minutes of the General Meeting (Business), held 30th November, having been published in the JOURNAL, were taken as read and signed as correct.

The following Licentiate attending for the first time since his election was formally admitted by the President—viz., Augustus Seymour Reeves.

A Paper by Mr. J. J. Joass [F.] on "THE WORK OF THE LATE JOHN BELCHER, R.A.," having been read and illustrated by lantern slides, a discussion ensued, and on the motion of Professor Bercsford Pite [F.], seconded by Sir Wm. Plender, a vote of thanks was passed to him by acclamation.

The Meeting separated at 9.45 p.m.



Mr. Belcher's Design for a Church on the Regent's Canal, Paddington.

THE WORK OF THE LATE JOHN BELCHER, R.A.

By J. J. JOASS [F.].

Read before the Royal Institute of British Architects, Monday, 14th December 1914.

IN dealing with the subject of this Paper I feel that I must necessarily be covering ground which is already familiar to most of those here to-night. It is not my intention to add to the eloquent testimonies to Mr. Belcher's memory by many of his colleagues and contemporaries at the time of his death. I propose rather to mark out clearly the successive phases of his career and to shew you in detail some of the more important works by means of lantern slides, describing them shortly as we proceed.

Mr. Belcher was born in 1841 at Trinity Square, Southwark. He spent his life in London, and died last year at no great distance from the place of his birth. He was therefore a true Londoner, and his interests and sympathies were bound up in the city which he loved so well. His father, Mr. John Belcher, was also an architect and surveyor, who practised at No. 5, Adelaide Place, London Bridge. He was an able man of business, with considerable artistic and musical ability. His mother was a direct descendant of William Woollet, the eminent engraver. The Woollets were originally of Dutch origin, and as many of the members of the family had artistic gifts Mr. Belcher's artistic character may have been derived from them. Mr. Belcher spent a year or two at school at Luxembourg, and even at that time gave evidence of a decided bent for sketching and drawing, some of his sketches of the Luxembourg fortifications being engraved in the *Illustrated London News* of 1867.

About the age of twenty-one he spent some time in Paris studying especially modern French architecture, and some of the work done in his father's office soon afterwards bore distinct evidence of

this influence. In the year 1865 he was taken into partnership by his father and commenced an active career as an architect which only terminated with his death.

In forming an estimate of Mr. Belcher's work and of the very considerable influence which he has had on contemporary architecture there is one aspect which should not be lost sight of. His father practised in the City of London at a period when the traditions of Soane, Donaldson, and their school had by no means died out. He was almost entirely unaffected by the Gothic Revival and the teachings of its prophets, not from any inability to appreciate and understand the beauty of Gothic, but from a logical conviction that such work was unsuitable to the requirements of his time, particularly in the class of work he was likely to be engaged upon in London City. He sent his son to Paris to study especially the Renaissance work, and no doubt what he learned at that time affected in a very marked manner the work of his later years. A continuity of thought and tradition was thus preserved from father to son which connected him to an unusual extent with the traditions of the later phases of English Renaissance architecture and specially qualified him to take part in the early manifestations of its revival.

On his return to his father's office the first buildings which bore the mark of the influence of John Belcher, jun., were the Royal Insurance Company's building in Lombard Street and the Commercial Union Assurance Company in Cornhill. Some of the sculpture of the former building was executed by Thomas Thornycroft, the father of the present Royal Academician, and illustrates at that early period the importance which Mr. Belcher attached to the allied arts in connection with architecture, a principle to which he was faithful to the last and which was to have a great effect on his future work.

Notwithstanding the paternal warnings and instruction he soon came under the influence of the Gothic movement, and in fact became one of its most enthusiastic devotees. He was a contemporary of Sedding, and the work of Godwin, Burges, and Street affected him powerfully. The effects of this change are first noticeable in his work at Mansion House Buildings at the corner of Queen Victoria Street and Poultry, now occupied by Messrs. Mappin & Webb, and a small hall for the Curriers' Company, afterwards pulled down and rebuilt by Messrs. Rylands to allow of the extension of their premises (see fig. 1).

During Mr. Belcher's Gothic period such men as Mr. Harry Wilson, Mr. Needham Wilson, and Mr. Beresford Pite were at work in his office, and had he been successful in obtaining a commission for a great public building at this time the result, I have no doubt, would have been notable. This was not to be, however, and most of the work carried out was of a domestic character—as, for example, Stowell Park, a restoration and additions on a large scale for the Earl of Eldon. A special feature of the design is the garden. This drawing [fig. 2] is by Professor Beresford Pite—a pen-and-ink drawing, and a remarkable one of its kind. Other examples are Holcombe, Chatham; Yeldhall Manor, Twyford; Morden Grange, Blackheath; Eyot House, Chiswick Mall, for Sir John Thornycroft; and his own house, Redholm.

These designs were typical of the best domestic architecture of the time when the great mass of such work was exceedingly poor. They reflect strongly the work of Nesfield and Norman Shaw, who, along with a few other pioneers, were the forerunners of the great advance in English Domestic architecture which followed.

A notable feature of nearly every one of these designs is the garden—a subject which specially appealed to Mr. Belcher when the idea of a garden designed by an architect seemed most unusual. This love of gardens continued all through his life, and I will shew you later some further examples of his work in this branch of our art.

Although keenly interested in ecclesiastical architecture Mr. Belcher had few opportunities in this direction, and the most important designs were never carried out. Among these is the design for the completion of Brandon's Gordon Square church. This fine spire [fig. 3] would have been a great

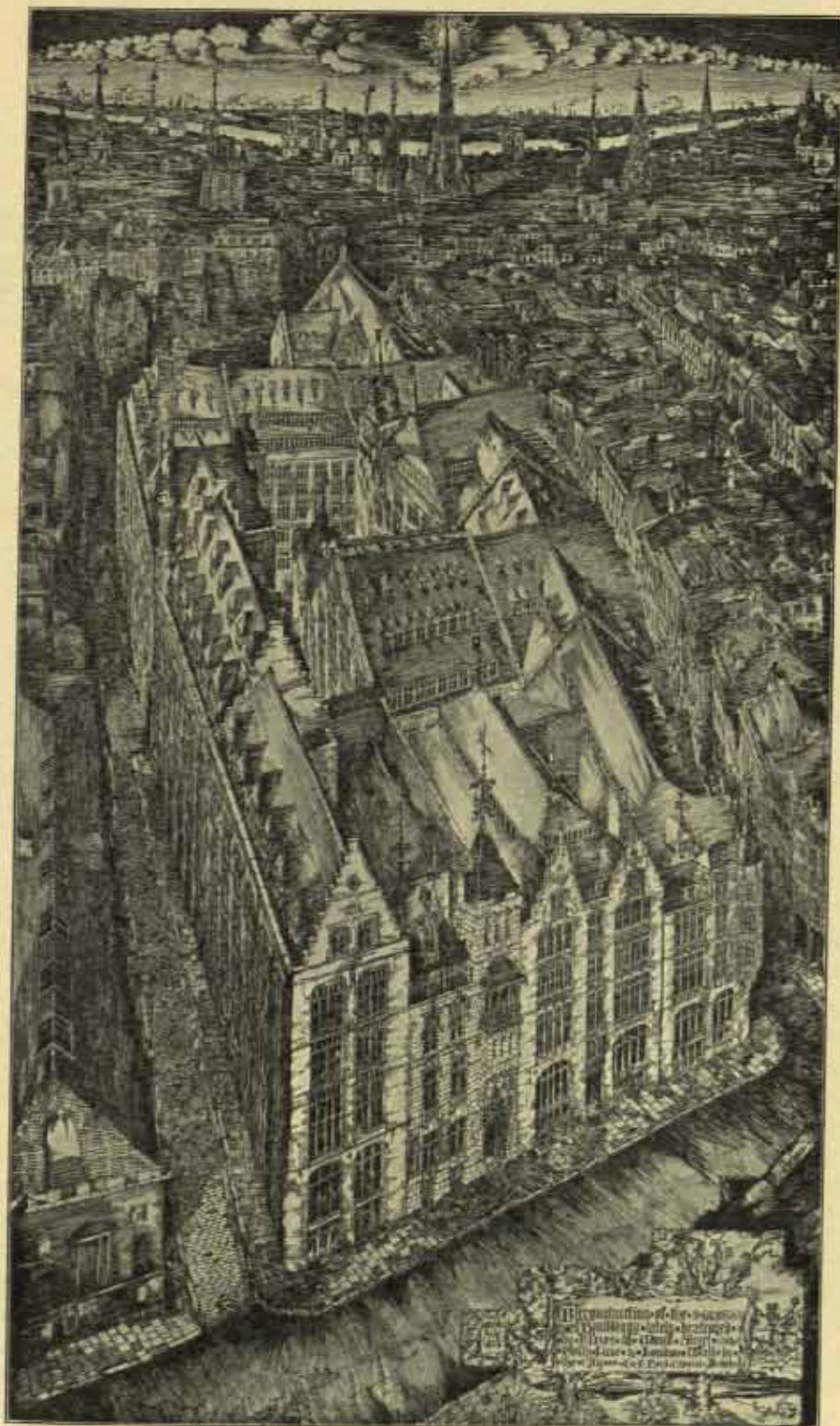


FIG. 1. RYLANDS'S PREMISES, WOOD STREET.

addition to the church. The Catholic Apostolic Church, Paddington, is another design of that period. It will remind you of Sedding's Sloane Square church, which was erected about the same time. With the exception of one or two small restorations and additions, he did no more church work until quite recently.

About the year 1875 Mr. John Belcher, sen., retired from business, and his son entered into partnership with Mr. James W. James. This arrangement continued until 1882, Mr. James continuing the business management of the firm until his retirement in the latter year.

Soon afterwards Mr. Beresford Pite returned to him after a year's absence on the staff of *The Builder*. In 1885 he became a partner, and much of the work subsequently produced exhibits his influence very strongly. Their conversion from Gothic appears to have taken place about the same time, and the Renaissance soon captivated them. Signs of this change are not wanting in Mr. Belcher's domestic work, and several visits to the Continent seem to have confirmed him in his devotion to the style.

His first important public building, the new Hall for the Institute of Chartered Accountants, was won in competition. It was the lighter and more fanciful phase of Renaissance architecture which appealed most to him at this time, and his mind was strongly stimulated by visits to Southern Germany and Vienna. The eccentricities of the late Italian work at Genoa also had its effect upon him and is reflected in the Accountants' Hall.

At the date of its completion in 1891 this building possessed many novel and almost startling features, though they are no longer thought so, and since then many of them have become so familiar by much repetition as to seem almost hackneyed. It attracted a great deal of notice, favourable and otherwise, according to the individual leanings of the critics of those days; indeed, the controversy still goes on. I have just heard from a friend of mine in Lord Kitchener's army, billeted on another member of our profession whose pet topic is the pernicious influence of Belcher and all his works on English architecture. This individual is in a distinct minority to-day, however. Its sound proportion and beautiful detail make this building even now one of the most interesting and stimulating examples of the modern Renaissance style in England. Moreover, it is unique in being embellished by the work of two of the most accomplished English sculptors, Mr. Hamo Thornycroft, R.A., and the late Mr. Harry Bates. They have never, in my opinion, surpassed their work on this building, which, I think, is the high-water mark of architectural sculpture in this country, and the exquisite fitness of the setting gives additional value to its effect.

It is pleasing to have to record that the interior decoration of the Council Chamber of this building is now in progress. It is based upon the lines originally suggested—a repetition of the architecture of the room in the great panels on either side, with subjects of a symbolical character carried round the semi-domes at either end. The work is being carried out by Mr. George Murray, and I am glad to be able to state that it had Mr. Belcher's entire sympathy and approval. It was no small comfort to him in his last illness to know that this building, which I have good reason to believe was his favourite one, was at last to be embellished as he intended it to be done.

While the Chartered Accountants' building was in progress the competition design for the South Kensington Museum was being prepared. The reputation of an architect usually rests upon work which he has actually carried out and left behind complete, but this design, like the first design for St. Paul's in the case of Wren, must certainly be reckoned with in any estimate of Mr. Belcher's work and influence. It gave a fine opportunity for the display of that imaginative and fanciful phase of the Renaissance which he adopted at this period, and, I think, has not been surpassed in these qualities by any English architect of our time. The drawing of the Main Entrance Hall and Gallery [fig. 4] has not been seen by many of the present generation of draughtsmen, and is one of the finest architectural drawings I know.

Among a number of designs made about this time, chiefly in competition, may be mentioned a

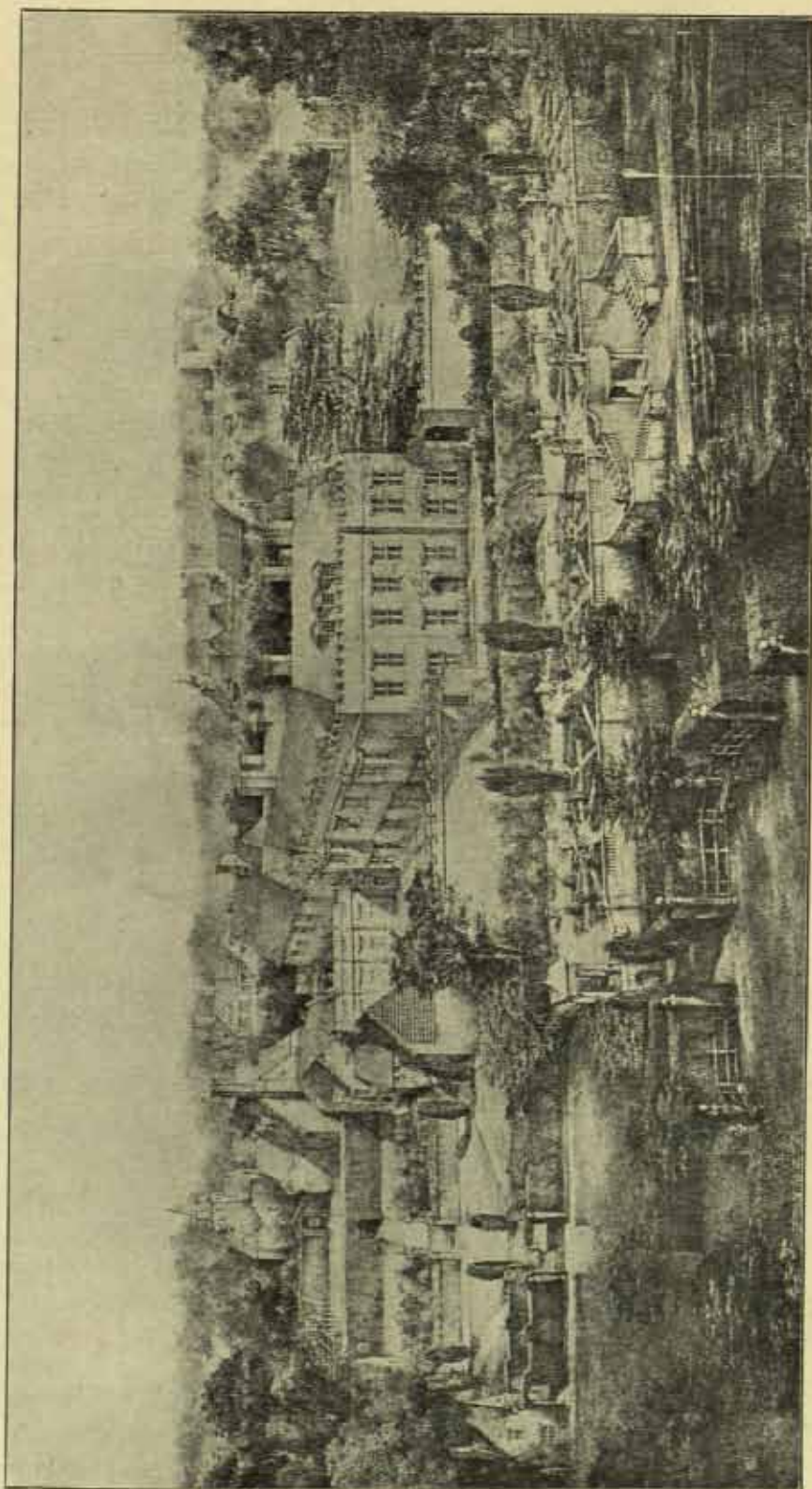


FIG. 2. STOWELL PARK: RESTORATION AND ADDITIONS BY MR. BELCHER.
From a Pen-and-Ink Drawing by Professor Beresford Pite.

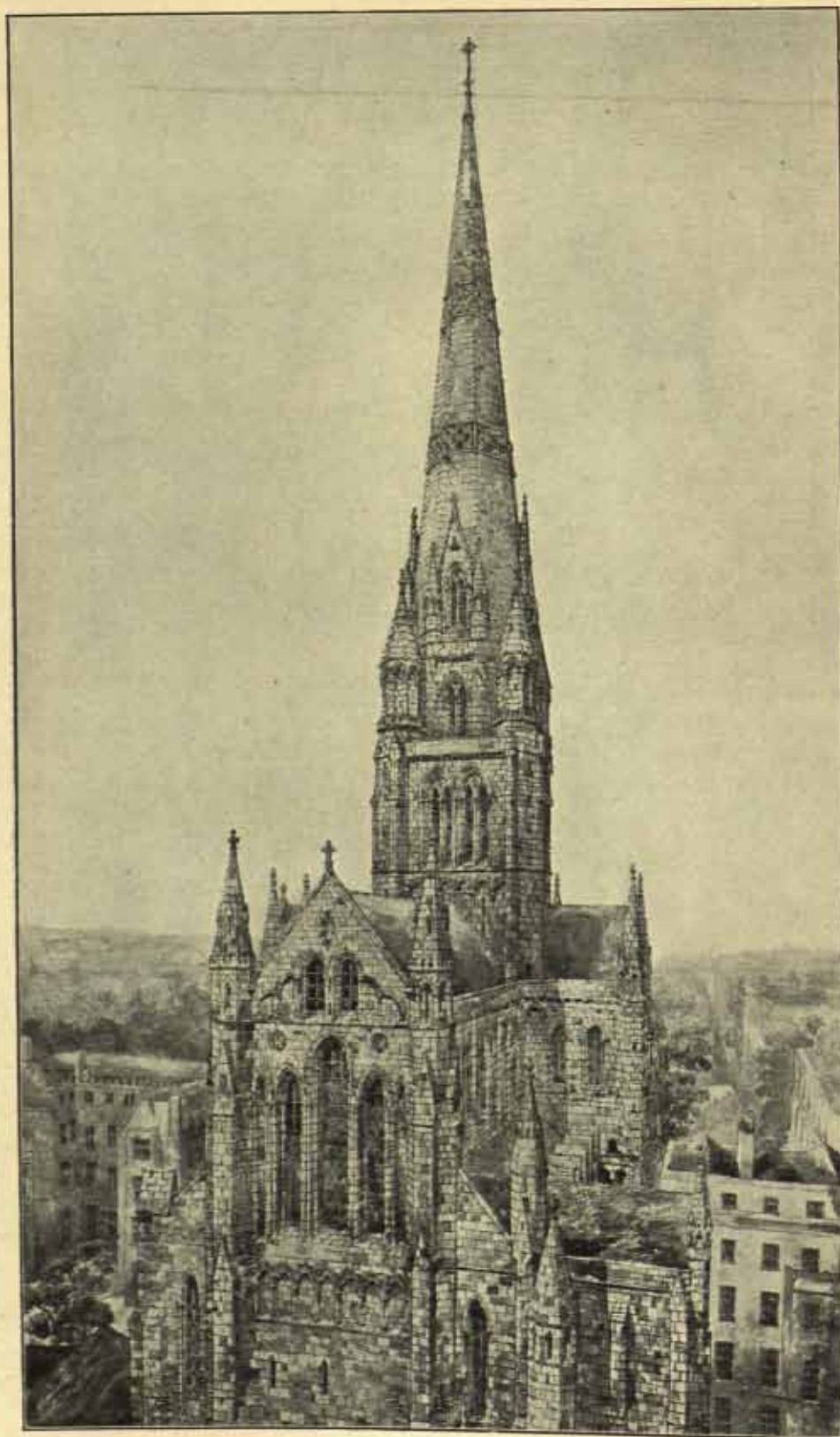


FIG. 3. MR. BELCHER'S DESIGN FOR COMPLETION WITH SPIRE OF BRANDON'S GORDON SQUARE CHURCH.

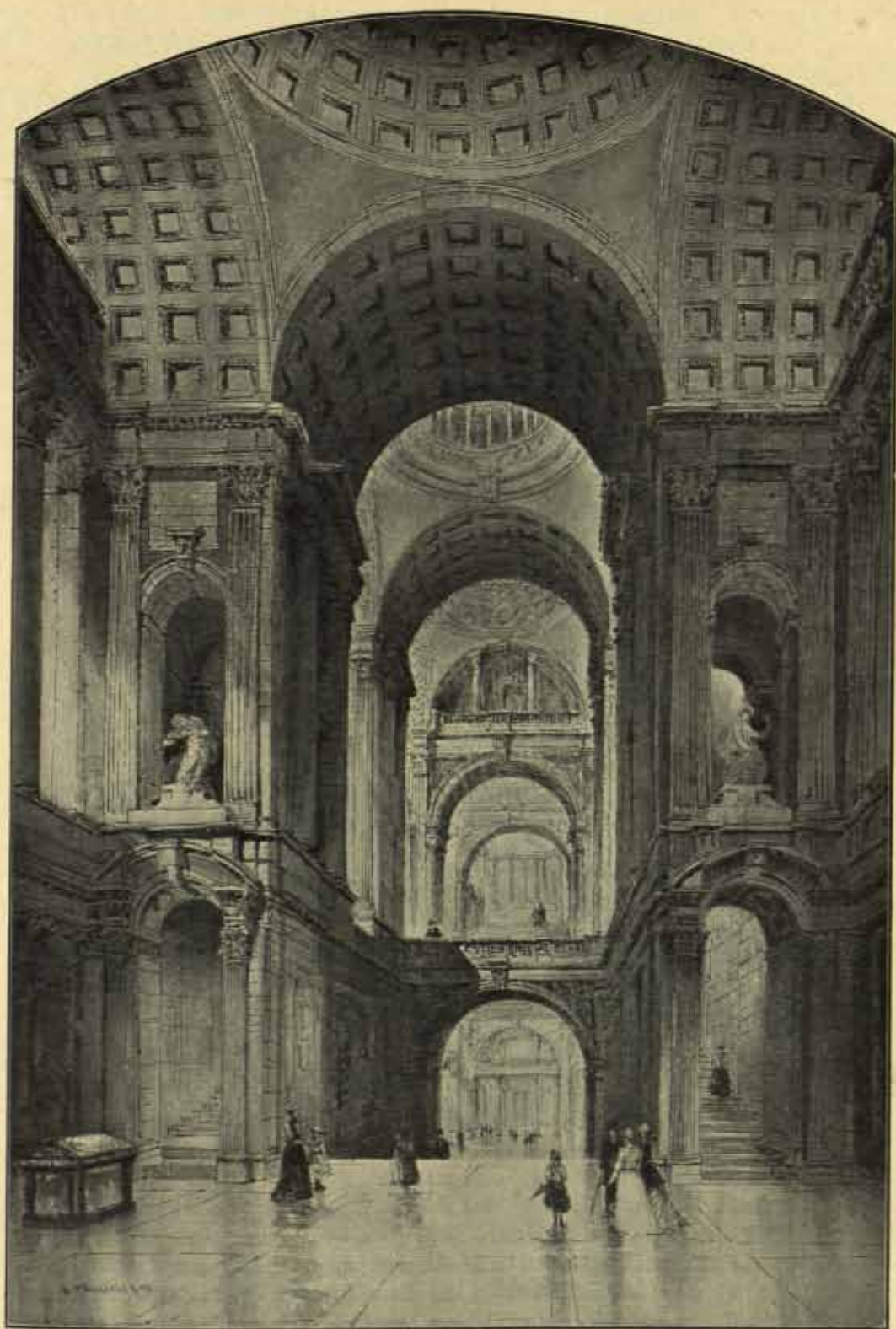


FIG. 4. MR. BELCHER'S COMPETITION DESIGN FOR SOUTH KENSINGTON MUSEUM: MAIN ENTRANCE HALL AND GALLERY.

very fine one for the chief offices of the Royal Insurance Company in Liverpool. This shews a tendency to the more orthodox lines of the Italian Renaissance, which becomes increasingly apparent in his work from year to year.

About the year 1890 the office was removed from Adelaide Place to 20, Hanover Square, and with the removal came a change in the character of his practice. For a number of years following he had little work to do in the City, but in another direction he was fully occupied. About the year 1895

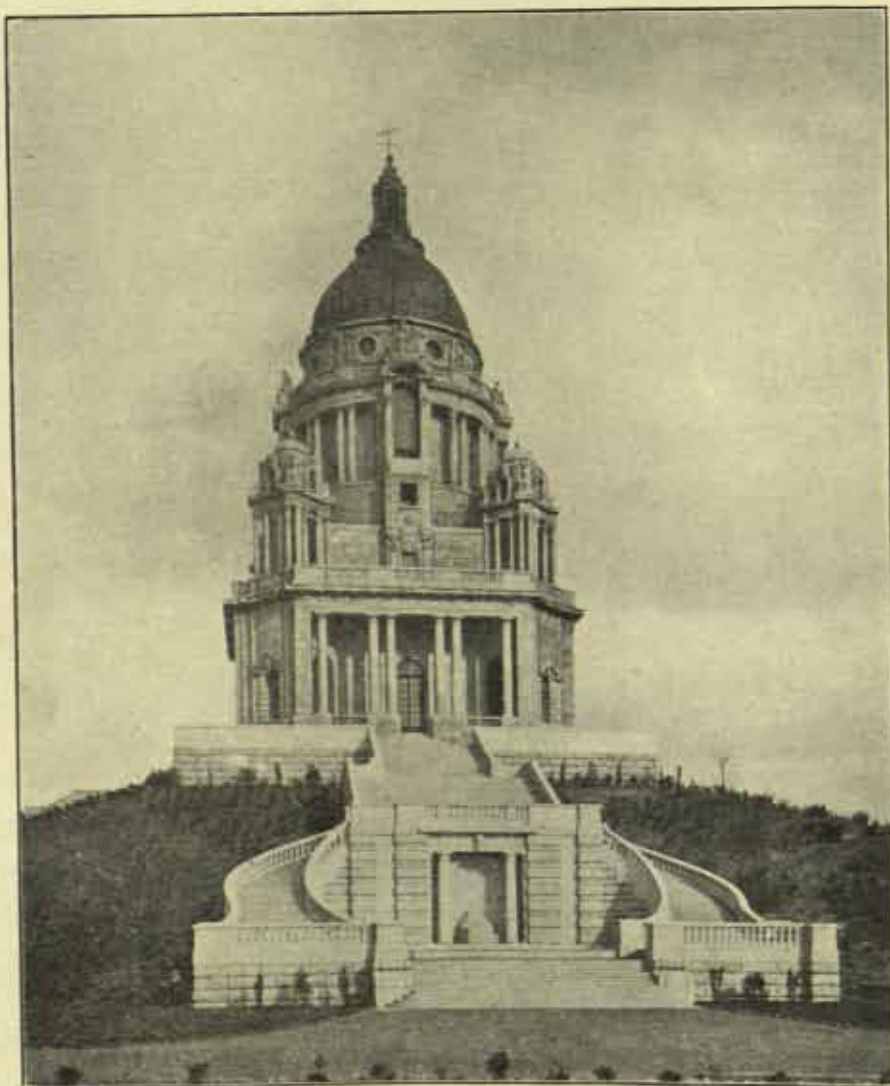


FIG. 5. THE ASHTON MEMORIAL.

Mr. Belcher collaborated with Mr. Macartney and the late Mr. Bradley Batsford in the production of *The Later Renaissance Architecture in England*. This was a work which absorbed a great deal of his time and interest, and he frequently referred to this time as one of the happiest of his life. Many were the meetings and conferences, and innumerable the drawings, photographs, and sketches passed in review before the final selection was made. I have been told by one of the best-known and most successful architects in America that it is the most useful architectural work ever published, and it must certainly have saved many an architect an infinity of trouble in the design of English woodwork.

The making of this book had the effect of turning Mr. Belcher's thoughts from Vienna and Genoa to England, and had a great influence upon his subsequent work.

While he was engaged upon this work, in the year 1895, it was, I think, Mr. Beresford Pite who suggested to him that I might have some drawings which were required for illustration. Several were found suitable, and eventually I made a number of others, which have found a place in the book.

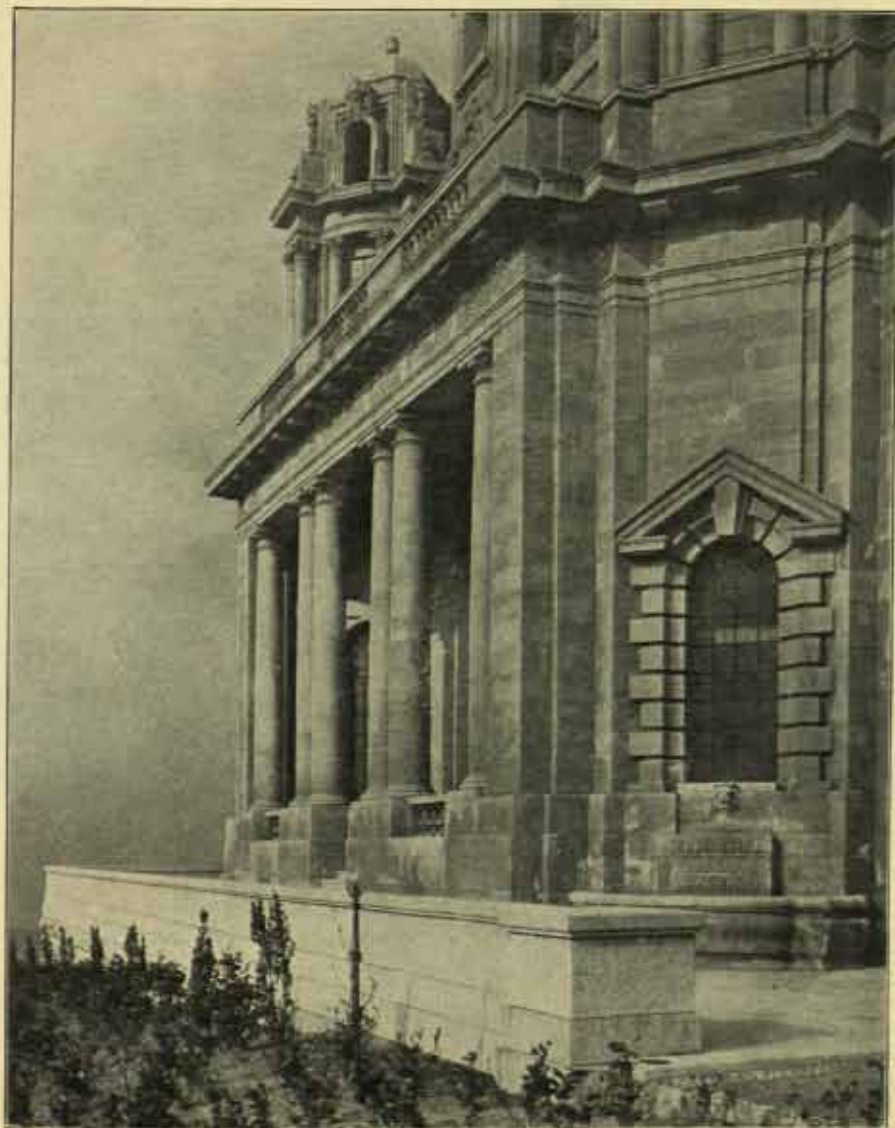


FIG. 8. ASHTON MEMORIAL: SIDE VIEW OF COLONNADE.

At the same time I found a good deal of very varied work to do in his office, and in this way a lasting friendship commenced which endured until the day of his death. In 1905 we entered into partnership and since then worked constantly together.

The leisure which he had enjoyed for several years was interrupted by work on the drawings for the new Town Hall at Colchester. This was won in competition with several other well-known London architects, and was the first of several designs based on decidedly English lines. From this time onward the practice, which was a steadily increasing one, left him little time for further efforts in a

literary direction. He found time in 1906-7 to write *Essentials in Architecture*, a very opportune work and one which met with an extensive welcome from the Press and public. It was with him a labour of love and represents very faithfully the principles which he continually strove to put into practice.

Representative works of these years are the Colchester Town Hall, The Tower, Pangbourne, Electra House, Cambridge Town Hall, Cornbury Park [fig. 7], and the Ashton Memorial [figs. 5 & 6]. The outstanding feature of the latter building is, I think, its construction. The site is a most exposed one and the wind pressure upon the isolated dome at times enormous. In the ground plan the four diagonal

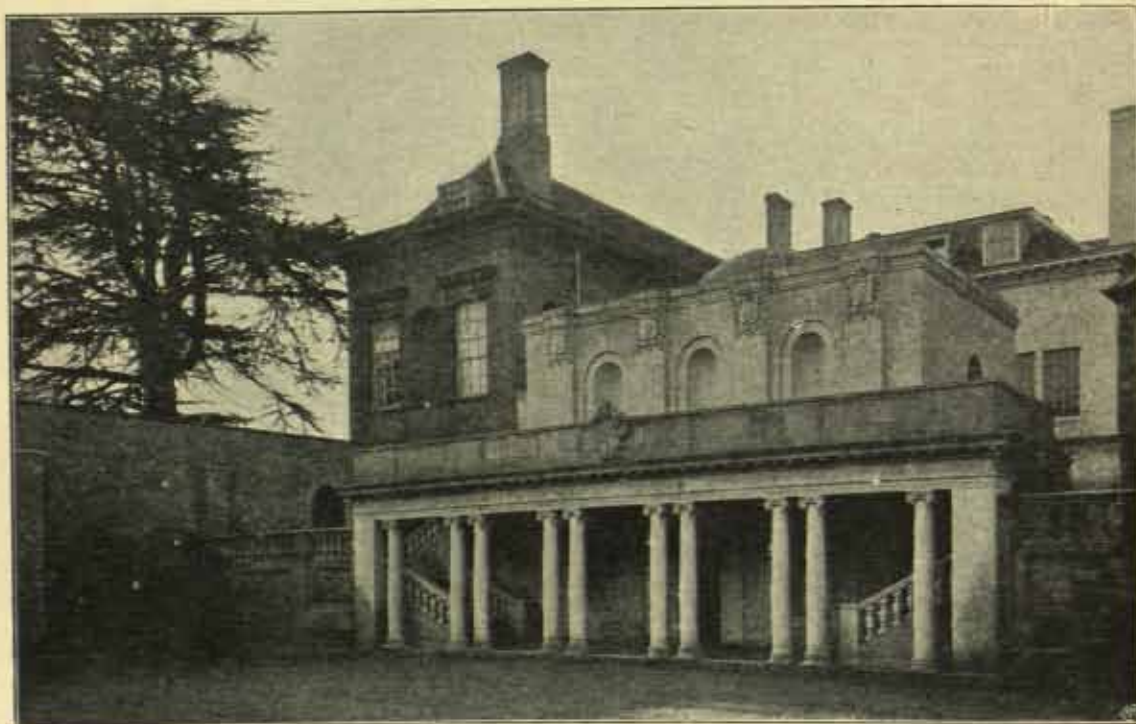


FIG. 7. CORNBURY PARK, OXFORDSHIRE: NEW ENTRANCE.

chambers, besides enclosing and sheltering the piazzas, form powerful buttresses for the corners of the square. They are weighted by cupolas above, and the walls of the first stage are carried up of great width with a hollow space between. The second stage, as you will observe, is constructed on the principle of the Roman Pantheon, having the alternate rectangular and semicircular recesses adopted with so much success there, giving great lateral strength to the wall supporting the dome, combined with lightness of construction, and doing away entirely with the use of steel until the dome itself is reached, &c.

Other work of this period includes the Royal London Insurance Company's Offices, the reconstruction of No. 45 Belgrave Square, a library in 49 Prince's Gate, Mappin & Webb's new premises, Oxford Street, additions to Winchester House, Old Broad Street, and the Royal Insurance Building in Piccadilly.

(To be continued.)

THE CIVIC DEVELOPMENT SURVEY AS A WAR MEASURE.

By H. V. LANCHESTER, Vice-President R.I.B.A.

Read at a Meeting convened by the Architects' War Committee, and held at the R.I.B.A. Galleries, Thursday, 17th Dec. 1914.

AS you are probably aware, an important part of the work of the Architects' War Committee is the provision of work for those architects who are deprived of a livelihood owing to the War. It is all very well to raise the cry of "Business as usual," but it soon becomes obvious that when a large proportion of the national earnings have to be devoted to carrying on warfare on its present scale, other industries involving the employment of capital must suffer, and that after making due allowance for those professional men who are qualified and able to join His Majesty's Forces there must still remain a large number who are placed in a very difficult position, not only among architects, but in other professions connected with building and all forms of activity depending on capital.

Now, in looking around to see how such professional men could be most usefully employed, the Professional Employment section of the War Committee came to the conclusion that the work of Civic Development Survey should take a prominent place in their programme.

I do not propose to go into the efforts being made to secure this support, but I may say that they have received a measure of encouragement sufficient to justify perseverance in these activities. A general scheme for administration has been sketched out, but, as there are other more important considerations before us, I will not now take up your time with details of this kind, but will pass on to define what is comprehended in the work of the Civic Development Survey.

Perhaps you will ask why, before doing this, I do not proceed to make out the case for undertaking this work either at all or more especially at the present time. I will give you my reason for leaving this admittedly necessary argument till the end. It is that there has been so much vague talking and loose thinking on this subject that until a clear definition of the aims and methods of a Civic Development Survey is formulated it is impossible to appreciate either its general claims or its suitability as a war measure.

Now, as might be expected, of all our British cities, London has carried this class of work the furthest, and the fact that we have now on the walls a number of examples of civic survey work in London will materially lighten my task. Where authorities differ I shall make no attempt to decide between them, but will content myself with the broad general lines and leave it an open question as to relative urgency of the various sections.

It will help my purpose to quote Mr. Raymond

Unwin, who has, we must all agree, so fully justified his selection for the post of Chief Inspector of Town Planning by the Local Government Board.

SCHEDULE OF PRELIMINARY INFORMATION THE COLLECTION AND CONSIDERATION OF WHICH AT A PUBLIC TOWN PLANNING ENQUIRY SHOULD BE PROVIDED FOR BY THE TOWN PLANNING BILL.

(a) A collection of old maps to show as completely as possible past lines of the town's development. (Those prepared in 1832 would be useful in this connection.)

(b) Ordnance Survey maps, coloured to show the present condition of the town with regard to such matters as:—

1. Difference in degree of density of population.
2. Any insanitary areas, or areas of special poverty.
3. Distribution of manufacturing business areas.
4. Parks and other public open spaces.
5. Vacant spaces available for the extension of (4).
6. Public buildings and all places of public interest or special beauty within the area to be dealt with.
7. Traffic facilities, railways, tramways, tubes, waterways, &c.
8. The lines of main drainage and water supply.
9. All the finer existing trees on the area to be dealt with, together with any other feature of natural beauty or interest.

(c) Geological maps, with diagrams showing prevailing winds, rainfall, &c.

(d) Contour survey maps of the areas to be dealt with, showing the levels of the whole of the ground at frequent intervals.

(e) A relief model of certain portions of the ground would be most desirable.

(f) Maps of other towns, ancient and modern, English and foreign, similarly situated, to be used for purposes of comparison and suggestion.

In addition to the information required to make the above maps there should be collected all possible information concerning:—

(a) General traffic conditions, and statistics, the degree of flow into and out from the centre with its general direction.

(b) Particulars of existing, proposed, and desirable railway, waterway, highway, and tramway facilities.

(c) Particulars of local industries and the requirements for their encouragement and extension.

(d) Particulars of existing tendencies of the town's growth, with indications afforded by them as to the natural lines of the town's development.

(e) Historical and legendary associations with places or buildings, particulars of places of special beauty, together with such points as a prospect of sea, river-front, or public building which it is important to preserve or provide for.

In connection with (e) a collection of photos with plans to show their points of view would be of great value.

(f) Particulars as to parks, playgrounds, and other public spaces, with statistics as to their relative use by the public, and suggestions as to the special needs of the present town, and as to desirable places to be reserved to meet the needs of future town extensions.

(g) Estimates of the probable future requirement of schools and all other public buildings for which it would be desirable that sites should be chosen and reserved.

(h) Particulars of any local customs, requirements, or prejudices affecting the desirable size and shape of building plots for various purposes, hence determining the distribution and distance apart of new streets. Any suggestions as to the character and treatment of new streets.

(i) And, finally, particulars of all local conditions as to building materials and traditional methods of building prevalent in the district, types of trees and shrubs which are known to flourish, and any of the more subtle characteristics which go

to make up the individuality—historical, economical, and artistic—of the town or city under consideration, with a view to preserving as far as possible such individuality in the enlarged town.

OUTLINE SCHEME FOR CIVIC DEVELOPMENT SURVEYS IN RELATION TO PROFESSIONAL UNEMPLOYMENT.

In view of the general recognition of the fact that thorough civic surveys are an essential preliminary to the preparation of sound schemes for the future development of our cities, it may be pointed out that the present moment offers exceptional opportunities for enlisting the services of those peculiarly qualified for such an undertaking. It is already evident that during the continuance of the War there will be a considerable diminution of employment among the professional classes, many of whom would possess experience and training suited to the demands of this work. In such conditions the provision of a means of livelihood is by far the best method of avoiding distress, and, therefore, employment or work having a general and permanent value meets, to an exceptional degree, the necessities of the case. A subscription for the purpose has been started by the Architects' War Committee, but it is allocated to this profession only, and, as it does not appear that a scheme so wide in its scope should be dealt with on these exclusive lines, it is hoped that the other professions will be induced to co-operate in the collection and distribution of a fund, which, having regard to the general utility of the work to be done, should also receive support from the nation as a whole.

Local supervision might be exercised by an honorary committee of leading citizens who would employ, on certain definite lines, a professional staff, recommended to them by the various committees interested, for the purpose of procuring and tabulating such information as is comprehended in the civic survey.

It is suggested that the work should be grouped under the following headings:—

1. **ARCHÆOLOGICAL.**—Comprising records of all sites and buildings of architectural or historic interest, with positions and particulars indicated on maps.—All existing information collated and deficiencies supplied.—Suggestions for the use and preservation of buildings obsolete for their original purposes.

2. **RECREATION.**—The study of existing information.—Position, character, and areas of parks and recreation grounds, the extent to which they are used, and the location, density, and general status of the inhabitants using them.—Public buildings, such as libraries, baths, etc., on the same basis.—Private playing fields, golf links, etc., dealt with on similar lines.—National features of exceptional interest.—Suggestions as to correlation of all these, neighbourhood, centres, &c.

3. **EDUCATIONAL.**—Study of existing statistics as to educational facilities and the local demands on them, diagrammatic indications of grade, attendances, and the operations of private and religious bodies.

4. **HYGIENE.**—Existing statistics are here fairly complete. Study of these in relation to physiography and population density, with results shown graphically.

5. **COMMERCE.**—The indication of existing (and probable future) centres of employment, their character, the

numbers of employees, the localities they occupy, average wages, &c.

6. **TRAFFIC.**—Railway, water, tramway and road facilities with the existing traffic. Capacity of each and probable future developments considered in relation to traffic.

7. **VALUATION.**—Graphic rendering of relative values of all land and buildings.

8. **GENERAL.**—Collection and classification of maps, illustrations and statistics of other towns, British or foreign, displaying similarities in their growth and circumstances.

The information gathered under these headings would be placed in graphic form on Ordnance maps, thus giving facilities for comparison between the various factors, and forming a permanent record of present conditions and future possibilities. The whole would be arranged in a form suitable for publication if required, but the confidential character of some of the information would necessitate that exhibition or publication should be at the discretion of the municipal authorities. Subject to this proviso the results would naturally be gathered together to form a civic museum, open to the public, which is bound to exercise an important influence on the future of the city.

Now I have endeavoured to subdivide all this work into groups and have prepared what may be described as specimen sheets, showing how the work may be carried out by many who have had so far no previous training except a sound general education coupled with the discipline of some employment, so that workers of all kinds may be brought into the scheme by a good system of organisation and by clarity of definition in these subdivisions.

CIVIC SURVEY—DRAFT SPECIMEN SHEETS.

Sheet 1.

I.—ARCHÆOLOGY (A, GENERAL).

Prepare a plan of the city (using 6-inch Ordnance sheets) showing by hatchings its extent at the following periods:—

Roman ...	...	...	...	...	■
500 to 1700 ...	...	...	...	...	▨
1700 to 1831 ...	...	...	...	...	▩
1831 to 1851 ...	...	...	...	...	▪
1851 to 1871 ...	...	...	...	...	▧
1871 to 1891 ...	...	...	...	...	▦
1891 to 1901 ...	...	...	...	...	▥
1901 and after ...	...	...	...	...	▤

Supplementary notes as to the reasons for periods of stagnation and development and as to any salient features of the city as a whole at various dates, such as lines of wall, water-courses, &c.

Old maps and views or copies should be collected and arranged in order of date. Reference should be made to those in existing collections, stating where they may be found.

Sheet 2.

I.—ARCHÆOLOGY (B, SPECIAL).

Plot (if necessary) and tint on Ordnance sheets:—

British camps...	...	...	...	...	Buff
Roman camps	...	...	...	...	Pink
Battlefields	...	...	...	...	Salmon

Other historic sites	—
Roman roads	Pale grey
Roman buildings	Red
Medieval buildings	Blue
1500 to 1700	Green
Buildings of exceptional architectural interest since 1700... ..	Black
Buildings of historic interest (such as residences of great men) since 1700	Brown

Each site or building to have a reference number referring to a folio in which all the information, drawings, views, &c., shall be collected.

This information should include the names of present owner and occupier, full description of past and present use, particulars of alterations and restorations, list of books and illustrations dealing with it, stating where same may be found.

Suggest uses for interesting buildings that are obsolete for their original purpose.

Sheet 3.

II.—RECREATION.

Obtain all information available re municipal undertakings, such as parks, recreation grounds, public buildings for entertainment, libraries, baths, &c. Also private provision for playing fields, golf links, racecourses, houses of entertainment, &c. Find, if possible, the annual number of visits to these.

Colour on six-inch Ordnance sheets:—

Public parks, &c.	Dark green
Private recreation areas	Light green
Public buildings for entertainment	Red
Libraries	Brown
Baths	Blue
Places of entertainment (private)	Pink

Against each place (or on margin of map) a group of squares proportioned to number using (say $\frac{1}{2}$ -inch square equals 10,000 per annum), and a reference number referring to detailed description and statistics in folio.

This description should include date of opening, leading features, &c., and the general character of the ground or premises.

Waste land.

Sheet 4.

III.—EDUCATION.

Bases of Information.

Reports of Education Department.

Reports of Education Committee of County Council.

Census returns.

Reports of Juvenile Labour Exchanges.

Indicate on Ordnance sheets position of

Provided schools	Red
Non-provided schools	Brown
Secondary schools... ..	Orange
Private schools	Blue
Boarding schools	Green
Universities and technical institutes for specialised teaching	Purple

Against each place (or on margin of map) a group of similarly coloured squares proportioned to number on register of each institution (say $\frac{1}{4}$ inch square to each twenty), with percentages of accommodation provided and attendances, and a reference number referring to detailed description, area from which students are drawn, their playgrounds, and other statistics, in special folio.

Notes as to scholarships, progress, physique, and circumstances of students, teaching methods, &c., and further studies co-relating to other sections. Also as to subsequent careers of students as related to the education they have received.

Sheet 5.

IV.—HYGIENE.

Bases of information:—

A geological map.

A contour map (6-inch Ordnance).

Census returns.

Reports of Medical Officers of Health.

Meteorological reports.

The contours at every twenty-five feet to be coloured on the 6-inch map.

A set of 6-inch Ordnance maps to be hatched as directed to show:

Density of population.

Death rate.

Zymotic death rate.

Infant death rate.

Birth rate.

Proportion of misdemeanour and crime.

Other statistics to be illustrated graphically:

Physique.

Crime (classified).

General hospitals.

Provision for epidemics.

and general conclusions to be arrived at as to insanitary areas and the working of municipal services in regard to health.

Exceptional overcrowding and other points demanding attention should be reported on.

Sheet 6.

V.—COMMERCE, INDUSTRY.

Collect and tabulate the following information (Data from Chamber of Commerce, Labour Exchanges, &c.).

Output and its destination.

Industries of city and district.

Where and how carried on.

Factories, mills, &c.

Past or decaying industries and reasons.

Expanding industries and reasons.

Localisation of industries.

Method of work and payment.

Home industries and their condition.

Seasonal and intermittent employment.

A general historic review of the city's industrial development.

Supply, distribution, and other services.

Food, how obtained, and modes of distribution.

Other requisites, and modes of distribution.

Municipal services, and modes of distribution.

Relationship between wages and prices.

Plot on 6-inch Ordnance map in various colours the premises where numbers are employed.

Municipal undertakings (classified into trades).

Co-operative undertakings (classified into trades).

Joint stock and private undertakings (classified into trades).

Against each place (or on margin of map) a group of similarly coloured squares proportioned to number of employees (say on $\frac{1}{4}$ -inch square to each twenty) with average

weekly wage, and a reference number to folios giving further statistics, localities where employees reside, &c.

Hatch as directed on a similar map areas where the weekly wages of the inhabitants fall between certain amounts.

Diagrams of unemployment percentages in trades by the week and year.

Sheet 7.

VI.—TRAFFIC.

Obtain the Report of London Traffic Branch of Board of Trade, 1912, 6s. Study this, obtain what statistics are available, supplement these by personal investigations, and prepare reports of traffic conditions in your city on similar lines. The work may be divided into:—

1. Tramways.
2. Street vehicles.
3. Pedestrians.
4. Railways.
5. Waterways (if any).

1, 2, and 3 should include notes on road and pavement widths and their adequacy or otherwise for the existing and probable future traffic. Special notes should be made of points at which traffic difficulties arise and the reasons investigated as far as possible.

I venture to add a supplementary sheet prepared by Mr. V. Bell showing a somewhat different treatment of the subject selected.

Supplementary Sheet.

PHILANTHROPIC ACTIVITIES.

1. Survey of official action as regards poverty, cases of the blind, deaf and dumb, epileptics, inebriates, and other physical and mental defectives, orphans, waifs, &c.
2. Survey of voluntary action in the same—e.g., Charity Organisation Society, Surgical Aid Society, Ragged School Union, Incorporated Society for the Blind.
3. Note on co-operation between official and voluntary action and suggestion for further co-operation.
4. Survey philanthropic action of religious bodies and suggest co-operation.
5. To tabulate working of Act for Feeding Necessitous Children in locality.
6. Survey working of such institutions as boot, coal, blanket clubs.
7. Survey local charitable bequests: original bequests and how now applied: by whom managed (Charity Commissioners, &c.): (almshouses, &c.).
8. Especially note the effect (pauperising or otherwise) of philanthropic work in locality.
9. Survey philanthropic work (official and voluntary) in connection with dumb animals (R.S.P.C.A., &c., and cattle troughs, &c.).
10. Action (official and voluntary) re unemployment.
11. Action (official and voluntary) re fallen women.
12. Official and voluntary activities re medical treatment (hospitals, &c.).
13. To prove value of such (as Children's Country Holiday Fund).
14. Survey work dealing with recreation—e.g., Children's Happy Evening Association and play-centres.
15. Work such as college settlements, Toynbee Hall, Oxford House, &c.
16. Dealing with ex-criminals (official and voluntary) might come under this heading.
17. Co-relation with sheets on Recreation, Hygiene, Education, &c.

As the result of these investigations we obtain a valuable mass of information concerning the city,

most of which is presented in graphic form so that it is easily assimilated and used in making comparative studies. To facilitate these comparisons all maps, etc., should be suitably arranged and hung on the walls of a permanent Municipal Exhibition (with the exception of those containing information that the Authorities might regard as of a confidential nature).

This Exhibition would serve the double purpose of reducing the labours of those undertaking the task of preparing a Town Planning Scheme and also of educating the citizen in the conditions and factors governing his life and that of his fellows.

Now that the development of our cities has been made by the Town Planning Act a matter of public initiative, it is urgent that the information comprised in the Civic Development Survey should be placed in a convenient form before those who are concerned in carrying out the Act.

But of far more importance than this (for, after all, the expert can get a great deal of the information he wants by digging for it) is the influence that would be exercised on the general public, substituting a fine ideal of communal life for a narrow individualism.

REVIEWS.

ST. GILES-IN-THE-FIELDS.

London County Council Survey of London. Vol. V. The Parish of St. Giles-in-the-Fields. Part II. 4s. Lond. 1914. Published by the London County Council, Spring Gardens.

The present volume is the fifth of the authoritative series issued under the general editorship of Sir Laurence Gomme and Dr. Philip Norman; it completes the survey of the Parish of St. Giles-in-the-Fields, and treats of the important building operations that took place in the north of the Parish at the close of the eighteenth century.

It is not an easy matter to review a work of such magnitude and historical value. In the first place, one is overawed by the mass of information; and, secondly, one views such industry with jealous eyes; for every separate volume of the series already published contains matter sufficient to the cycle of the Renaissance in England. In the Preface Sir Laurence Gomme states: "As in the case of the other volumes issued, the important part of the book, from the survey point of view, is to be found in the photographs and drawings, to which the letterpress is strictly subservient, but which form only a portion of the actual collection in the hands of the Council." This is one of the points on which I disagree with the distinguished editor; for although the drawings are explicit and well selected, the photographs in many instances are unworthy of reproduction, especially in a work that purports to stand for all time. This remark is not meant to disparage the whole series of illustrations, but only refers to certain subjects, which I shall specify further on.

Sir Laurence Gomme very modestly refers to the

letterpress, which in its accuracy is fascinating to a degree; and he states: "The materials for the history have been gathered from diverse sources, and the lists of occupiers of the various houses dealt with have been obtained principally from the parish and sewer rate books, supplemented by the Hearth Tax Rolls and information given in deeds."

The volume opens with a description of the Boundary of the Parish of St. Giles, leads one gently through High Holborn, Little Turnstile and Kingsway to the seventeenth-century thoroughfare, Great Queen Street. It explains the foundation of the Freemasons' Tavern and the Great Queen Street Chapel, now demolished; it speaks of Sardinia, Betterton and Endell Streets; dwells for a space on Marshland (Seven Dials), lingers historically on the church from whence the Parish takes its name, skims New Compton Street, Denmark Street and Denmark Place; investigates the site of "The Rookery"; crosses New Oxford Street and explores Great Russell Street; and, finally, enters Bedford Square, whose secret is revealed in thirty-eight pages of absorbing information.

One cannot bestow too much praise on a policy that is directed so thoroughly to include specimens of architecture even of such recent date as F. P. Cockerell's additions to the Freemasons' Tavern. But it is a matter of surprise to the reviewer to find that New Oxford Street is scarcely mentioned. Yet this shopping thoroughfare in architectural treatment is second only to Regent Street; its achievement was one of the last efforts of the Committee of Taste, and Sir James Pennethorne, the nephew of John Nash, was the architect. Neither is there mention of the famous Brewery at the corner of Bainbridge Street with its brickwork arcuations of interminable length; this structure was a favourite subject with the early nineteenth-century print-sellers. Perhaps in another volume these omissions will be included.

It is also a matter for regret that no mention is made of Flaxman's tomb in the churchyard of St. Giles; tombs are always of interest to the antiquary, and the best of them should be recorded. Referring to the text, it is welcome to see small illustrations inserted, in proximity to the descriptions, such as plans, sketches of date tablets, stair brackets, coats-of-arms, fireplaces, and other items, all of which give colour to the subject.

The chief interest of the volume, however, to the designer who reverences the work of the past inheres in the 107 plates of drawings and photographs. From the respective maps of Agas, 1560-1570; Hollar, 1658; Fairthorne, 1658; Strype, 1720; and Hewett's Survey, made in 1815, can be traced the abnormal development of this residential quarter from the neighbourhood of Lincoln's Inn Fields, in the middle of the seventeenth century, until Thomas Leverton and George Dance finished the planning of Bedford Square and Alfred Place. Hewett's map of 1815 shows Russell Square as completed by the elder Burton; also Gower Street and the projected streets forming the rampart of northern Bloomsbury to the New Road. Plate 7 shows some interesting joinery details of a room

belonging to the first quarter of the eighteenth century. Plate 8 is a photograph of a unique early nineteenth-century shop front. Plate 9 is a very black photograph of a charming late eighteenth-century shop front, from which it is impossible to read the detail. Plate 10 is so bad in reproduction that its inclusion in the book seems incredible. Plate 11 shows two eighteenth-century window treatments, which readily lent themselves for the purpose of small shops. Plates 12 to 22 are alternately drawings and photographs of architectural buildings and details from Great Queen Street and buildings in the vicinity. Exception, however, must be taken to Plate 19, which is a dull, black photograph. The internal and external aspect of the Freemasons' Tavern and Marksmans' Hall is adequately dealt with on Plates 24-31. The Temple, by Thomas Sandby, R.A., 1775, demands every attention from the designer.

The Italianate, Great Queen Street Chapel, now demolished, is illustrated by two fair photographs, but the name of the architect is withheld. The group of late seventeenth-century houses in Little Wild Street, with the original wooden palisades (Plate 34), is a good example of a terrace of two-storied houses of the period, and it shows how the dormer windows were enlarged to provide increased attic accommodation. Plates 35 and 36 show doorcases from Betterton Street, both of the "Adam mode." Plates 37 and 39 are respectively illustrations of "Queen Anne's Bath," No. 25 Endell Street, and the Bowl Brewery. A plan of the proposed setting out of Seven Dials, dated 1691, and a photograph of the Seven Dials Column, now at Weybridge, follow. The series of shop fronts Nos. 14-16 New Compton Street must have looked very smart in their primary order, but unfortunately the glazed portion of the bow has been swept away in each example; the photograph is very indistinct. Plates 43-46 give an excellent series of measured drawings of the Church of St. Giles-in-the-Fields, by Mr. H. Cecil Newman; the photographs of the exterior are too faint to be of value. Plates 49 and 50 are interesting as views of the interior of the church in 1753 and at the present time; they are followed by other illustrations of the vestry and details. The type of architecture that formerly made Denmark Street is recorded, and one is charmed to encounter a beautiful photograph of the blacksmith's forge in Denmark Passage.

The chief architectural interest of the present volume, however, is to be found in the series of magnificent illustrations revealing Bedford Square, Plates 62-105. Bedford Square, with the possible exception of Stratford Place, is the only example in London of late eighteenth-century domestic architecture forming a four-sided composition and, with the exception of a few minor details, in its original condition. The fame of the architect, Thomas Leverton, has been overshadowed by that of the Adam Brothers, yet there is a distinction between the works of each. Robert Adam brought the Italian draughtsman, Joseph Bonomi, to England, but it was Thomas Leverton

who first employed him, and to the same architect Flaxman was indebted for employment at the outset of his arduous career. It has been stated on excellent authority that much of the figure modelling in the internal decorations of the Bedford Square houses is the early work of the refined Flaxman. Externally these terraces of town houses are among the most distinguished of their class in London, mainly on account of the exquisite proportion of void to solid and the elegance of the detail. The decorative treatment of the interiors forms subject-matter for a book by itself, and reference to the present volume will show to what a pitch of refinement interior design of the period was brought.

Two doorcases typical of Gower Street are shown (Plate 106), and it is worth stating here that the old opinion regarding the "long unlovely street with paving stones for cornices" no longer holds good. Among other things, the eighteenth-century builders gathered from experience, as well as from other conditions, the wisdom of keeping the architecture of tributary streets comparatively plain, thereby enhancing the value of central spaces such as Bedford Square. At the beginning of the last century the vista northwards along Gower Street was terminated by the classic vision of the wooded heights of Hampstead and Highgate, and even to-day a remnant of the famous view is to be seen. But the simplicity of Gower Street has been invaded by tall buildings, and much of the charm has gone.

The last of the illustrated plates, No. 106, shows a view of an old farmhouse at the rear of 196 Tottenham Court Road, the chimney-piece on the first floor being sympathetic to Leverton's manner.

The labours of the historian of the future will be comparatively light when the series of the Survey of London is complete and each parish of the Metropolis recorded. No author single-handed could attempt such a task, and the private publisher who could finance such an undertaking does not exist. Only the joint publishing committee of the London County Council and the Committee for the Survey of the Memorials of Greater London could undertake a task of such importance. The accurate drawings, plans and architectural descriptions were prepared by the architect to the Council, Mr. W. E. Riley; and Sir Laurence Gomme, who is responsible for the historical notes, mentions his indebtedness to Mr. W. W. Braines, the officer in charge of the Records, Publications and Museums Branch of the Department.

A. E. RICHARDSON [F.].

CHURCH DEDICATIONS.

Dedications of English Churches: Ecclesiastical Symbolism: Saints and their Emblems. By Francis Bond [Hon. A.], author of "*Gothic Architecture in England*." With 252 illustrations. 8s. 1914. [Humphrey Milford, Oxford University Press.]

In his preface the writer states that it has been a pleasure to write this book, and one can reply that it has been just as much a pleasure to read it. The book

has been written, as might be expected, clearly, carefully, thoroughly; and one could not wish for a better to place in the hands of anyone who desires to get a grasp of the subject-matter without specialising in it. The author is quite frank in telling us that Miss Arnold-Foster's three volumes put the thought in his head, and he acknowledges more than once his indebtedness to that lady's efforts. In dealing with saints we get at once in touch with flesh and blood, and therein lies the charm of this book. It makes the writer enthuse and the reader too. It is very nice and fascinating to read about arches, molds, capitals, and all the rest, but the fascination can never equal that which comes from contemplating human beings, especially those who have fought a good fight and left the world better for their coming. The lives of good and holy men and women have always appealed to the human race, and it seems the most natural thing to dedicate churches in their honour and implore their intercession. Mr. Bond might quite safely have assumed that invocation was practised earlier than the fourth century. There is reason to believe this to be the case. Moreover, if the Jew prayed for his departed ones, we may think that the Christian with his belief in the oneness of life and the unity in Christ would naturally ask the prayers of friends and others who had made a good confession. But, having said this, one is at a loss to account later for the manner in which some saints, whom one would hardly expect to do so, get a large number of dedications, while others, well known, get comparatively few. Mr. Bond tries his best to offer explanations, but they only cover a part of the facts, and it is to be doubted whether we shall ever really be able to understand our forefathers' choice in most of these matters. The first five one can understand—the Blessed Virgin, 2,335 dedications; All Saints, 1,255; St. Peter, 1,140; St. Michael and All Angels, 687; St. Andrew, 637. The author shows how, after the Council of Whitby in 664, the dedications to the Mother of God increase. In the Venerable Bede's list only three dedications appear; but after this one sees the Continental influence, and this is even more apparent if one compares the dedications of the Southern and Northern counties. As to St. Peter's dedications, the writer might have said that it was not due so much to Roman as to Bible influence. St. Peter is always placed first, and is mentioned, after Our Lord, more times than anyone else in the New Testament. In Bede's list of dedications SS. Peter and Paul outnumber all the other saints, and this cannot be ascribed to Roman influence. St. Peter's position also probably accounts for his brother having so many dedications. Mr. Bond thinks it due to St. Andrew's work in the City of Dogs, as told in the fifth century. But the arrangement of names in the Canon of the Mass is much earlier than the fifth century, and St. Andrew's name follows immediately after SS. Peter and Paul in "Communicantes"—*"sed et beatorum Apostolorum ac Martyrum tuorum,*

Petri et Pauli, Andrew," etc.—while in "*Libera nos*" it is one of only four names mentioned: "*et intercedente beata et gloriosa semper Virgine Dei Genitrice Maria, cum beatis Apostolis tuis Petro et Paulo, atque Andrea, et omnibus Sanctis,*" etc. St. John the Baptist comes sixth with 500 dedications, and his popularity was due not only to his life, but to the fact of his patronage of important bodies such as the Knights Hospitallers. Mr. Bond might also have added that he was patron of the mediæval freemasons.

The book is so interesting that one is tempted to write at great length, but there are a few other points one would like to refer to. The child-king of Mercia has his name given in three different ways, but the most common is not given—namely, St. Wystan. St. Wystan's capital was Repton, and it was at Repton that St. Guthlac was received and thence subsequently started on his voyage to Crowland. The couplet given on p. 120 as sung by children of Bradford in 1825 in honour of St. Blaize is interesting, and one would like to ask whether this may not be another variant of "*Salve Festa Dies.*" On pp. 135 and 161 references are given to St. Sebastian, and it is stated there are only two dedications. In addition to the two given, however, Woodbastwick, Norfolk, is dedicated to SS. Fabian and Sebastian. On p. 184 the author bids us beware believing too little, but on p. 187 he seeks to demolish as mythical some six legends including St. Ursula. It is a pity that he tries to do this, especially after admitting that a church is built at Cologne and contains her body (p. 143).

Having regard to all the circumstances of the case, it is worthy of note that not more than 650 churches appear to have lost all record of their dedication. At the fine old Norman chapel of Steetley the dedication is now kept on All Saints' Day, and no doubt many others of the 650 will follow this course and thus add to ecclesiological difficulties in the future. Having regard to the influence of the mediæval freemasons and the fact that much respect was paid to the Quatuor Coronati, is it not strange to find only one church dedicated to them? It is strange, too, that St. Matthias the Apostle has only one dedication, and that a doubtful one; yet many English must have visited his shrine at Trèves and brought back memories of their visit. His name, too, is mentioned in the Canon. Truly it is difficult to understand the method of choice of our forefathers.

The volume not only treats of Dedications, but also of Calendars, the Emblems of Saints, and Ecclesiastical Symbolism. The chapter on Calendars is very useful, but one must take exception to the opening sentence, wherein Mr. Bond, following Bishop Forbes, tells us that "*the ecclesiastical calendar is but a Christianised version of the Fasti of Pagan Rome.*" Surely the author would not have us think that if there had been no Fasti there would have been no Christian Calendar. The martyr's death would not have failed to be remembered, Fasti or no Fasti. Likewise one regrets to see it stated that Our Lord is

represented in early art as Orpheus. In a previous volume of the series we were told that St. George was merely Horus served up afresh. These statements are likely to mislead. Although little is known of St. George, we shall not be far astray perhaps in inferring that he was known to, possibly a friend of, the Emperor Constantine, and one would like to see a better rendering of St. George in another edition of this volume.

We have a useful comparison in Calendars by having those of Bede and Sarum side by side. Had they been arranged in the opposite direction, there would have been room enough for the modern Roman and Anglican Calendars as well, and the comparisons could not have failed to prove interesting. All will heartily agree with the writer's criticism on p. 223 of the Calendars of Sarum, York, and Hereford and the Reformed Calendar.

In the chapter on vestments would it not be well to explain what difference there is between dalmatic and tunicle? It is just one of those things that bewilders. Also would it not be well to supplement the similarity between a modern cassock and a Lancashire boiler by showing the old type of cassock? It would have added greatly to the value of this chapter if the vestments could have had illustrations in the text referring to them. Is Mr. Bond quite right about the pastoral staff? It is not a question of right or left, but of inward or outward. Do not Bishops carry the staff with the crook outward and Abbots with the crook inward? The list of saints, with their emblems and dates of death or martyrdom, cannot fail to be found useful; but why does Mr. Bond omit so many? Even if the Celtic dedications are difficult to follow, it would be better to put in their names and as much information concerning them as possible. This list will be referred to as much as any part of the book, and it is a pity that the list is not complete. As an example, St. Wilgefortis with no dedication finds a place, but St. Winwalloe with three dedications does not. Surely the old rhyme would have warranted St. Winwalloe in finding a place:—

First comes David, then comes Chad,
Then Winwalloe as if he were mad,

referring, of course, to the first three days of the Calendar for March. Is there not a slip on p. 36? Should not "*Sarum Manual*" be *Sarum Missal*? On p. 221 St. Edmund is the only one in the list without his prefix. On p. 122, etc., the Peace of the Church is put down as 312; should this not be 313? The Milanese saints are referred to in several places as "*SS. Gervase and Protasius.*" Why not the English ending for both? These, however, are quite small matters. The fact remains that the book is a good one, and not the least interesting in a very interesting series. The illustrations are, with one exception, remarkably good, and the whole production reflects great credit on the publisher, Mr. Humphrey Milford, of the Oxford University Press. The book deserves, and will undoubtedly have, a large sale.

GEORGE H. WIDDOWS [F.].

WORKING DRAWINGS.

Architectural and Building Construction Plates. Parts I. and II. By W. R. Jaggard. Fc. 1913. [Cambridge University Press.]

This work is published in two portfolios, each containing thirty plates, Part I. covering an elementary, and Part II. a more advanced course of building construction study.

Part I. includes the elementary bonding of brickwork, a little masonry, a dozen or so of carpentry and joinery plates, and a couple of slating and plumbing sheets. The drawings are decisively and clearly set out. They induce indeed the pleasurable, almost guilty, feeling that one is in reality examining another architect's working drawings. One notes, for instance, with a slight sense of shock, that some people do not make their wooden casement windows 24 in. centre to centre of mullions, and so on. The joinery sheets are good—though the wisdom of putting in a work intended for students a sheet of "a cheaper form of sash frame," containing most of the faults which one spends one's life endeavouring to prevent builders from committing, may be doubted.

Part II. is a little more ambitious. The inclusion of some Wren brickwork from the Orangery in Kensington Gardens, and the Guildhall Staircase, Rochester, was a happy thought, and the idea might with advantage have been carried further. Why should not our students learn all their building construction from such classic examples, and so absorb their "architecture" and their building construction at one and the same time? The other more modern examples—the work, as the author naïvely remarks, of "Masters of their Art"—include a pleasant little bay window that might be the work of any one of us, and some mouldings which the student must accept with caution, "Masterly" though they may be. One of the sad lessons which every architect's assistant learns in the first few hours of his sojourn in a new office is that "One Master's Mouldings are another Master's Pain." The student, therefore, will be wise who follows the author's suggestion and considers these plates as illustrating principles of construction rather than as details to be copied literally. But he will nevertheless enjoy examining these well-drawn sheets, which to the last retain the flavour of the working drawing rather than of the building construction plate or even of the measured drawing.

W. H. ANSELL [A.].

TOWN PLANNING.

Transactions of Conference held at the Liverpool Town Planning and Housing Exhibition, March 9-13th, 1914. Edited by S. D. Adhead and Patrick Abercrombie.

It is impossible to read the reports of Conferences such as this, presided over by selected experts, without realising what an immense advantage they must be to all who attend, nor does one always obtain such a report worthy of finding a permanent

place on one's bookshelves. Great credit is due to the Department of Civic Design of Liverpool University for having initiated the Conference and carried it through with such success. It is interesting to learn that the exhibition, as to which the book says little, was suggested by the memorable Exhibition and Conference held in 1910 by the Institute. It is making no invidious comparison, however, to say that the Liverpool Conference, though, of course, limited, was in some respects more practical, as many of the problems of a scheme prepared under the Housing, Town Planning, &c., Act., were described and discussed by those who have had actual experience of its working.

As roads have been aptly described as the bones of a Town Planning Scheme, it was natural that this subject should occupy a prominent place in the conference, and with the City Engineers of Liverpool and Birmingham presiding at the first two sessions, the Conference plunged without preliminaries *in medias res*. Arising out of the description of the recent schemes of these two cities, one or two leading points seem to stand out without dissent. One is the importance of ring roads, which were described alternatively as "park roads" or "elongated parks." Another is that wide roads are essential for safety and quick transit, where high speeds are anticipated. A third point, which has grown wearisome by constant reiteration, is that bye-laws governing construction and width of roads are tyrannical. Both at Liverpool and Birmingham, the districts affected are large enough to secure the planning of ring roads—120 feet wide in the case of the former, and 100 feet in the case of the latter—which a mere glance at the plans convinces one will be most effectual. With smaller districts such a result is only obtainable by some scheme of federation amongst adjoining local authorities, and this suggestion, which was emphasised by Professor Adshead, seems to foreshadow a system of compulsory town planning, at least for certain areas and for certain purposes. The representatives of the Institute at the Arterial Road Conferences now sitting in London will, no doubt, bear in mind this solution, if voluntary agreement by local authorities fail.

Another town planning problem much discussed was that of the limitation of houses to the acre, especially in connection with narrower and less expensive roads. Than Professor Unwin, who presided at one of the sessions, no one can speak with greater knowledge and experience on this subject, but it is important to have placed on record that the City Engineer of Birmingham states as his experience that with land costing £120 an acre "the landowner is quite well able to lay out his land and build 12 houses per acre as profitably under the new conditions as under the old bye-law conditions."

The sessions on Housing were of great practical interest. There seemed to be a consensus of opinion that the tenement house is a necessity, and there is no

doubt that in the north of England and Scotland it will take a long time to change this view. One very reasonable suggestion was made that in urban areas the playing spaces attached to tenement buildings might be larger and should be a charge on the rates and not on housing. Perhaps this has already been done in some cases, but one can well see that where the price of land is high, it would make a considerable difference in the economic rent. The eternal parlour question was thoroughly discussed, neither side apparently accepting defeat, indeed there is no fear but that there still remain many important questions to be fought out and settled at future conferences.

FRANK M. ELGOOD [P.]

CORRESPONDENCE.

Bells and their Tuning.

Tunbridge Wells: 2 Jan. 1915.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—I have read with great interest the review of Sir A. P. Heywood's recent work on Bell Towers and Bell-hanging which appeared in the JOURNAL of 21st November 1914. I think there are several matters which require elucidation from your reviewer as he has undoubtedly made statements which require proof before they can be accepted, and some which I think can be proved to be the exact opposite of what he seeks to establish as fact. With regard to the bell frame, I certainly consider that Sir A. P. Heywood has made his case good, but this can be safely left in the skilful hands of Mr. E. H. Lewis, who will, I hope, deal with this part of the subject.

The particular matter on which I wish to take your reviewer to task is in connection with the tuning of bells and the vague statements he has made concerning the same. He mentions the bells of Lavenham, and states that they are remarkable for certain reasons.

(1) He says that "they are beautiful in themselves." This does not necessarily prove anything as to tone or tune. The contour of a bell may be good, but the tone and tune bad. The ornamentation, if this is included in his description, tends in no way to help tone or tune.

(2) He next says that "they are not tuned on Canon Simpson's principle," and, I presume, claims that they are the better for not being so tuned. Now what is the so-called Canon Simpson's principle? It is very necessary that this should be defined exactly. I have recently analysed the tones of bells of four different founders who profess to tune on this principle, and find that in every instance the bells are as widely apart as the poles as to their component tones, which seems to indicate that the conditions are not understood, or that the bell tuner cannot successfully carry them out.

(3) He then says that the Lavenham bells are hung in a wooden frame. The bell alone is the prime tone factor, and whatever the material of the frame may be, it has nothing to do with the tone of the bell. That the Lavenham bells are hung in a capacious and lofty bell chamber is no doubt to the advantage of the tone of the bells; but again it must be stated that this is an accessory and not a tone-producing element.

The writer has quoted from Mr. T. C. Lewis's booklet on "The Modern Development of Unmusical Tone," and of this there is much to be said. In the first place the quotation as to what Mr. Lewis considers to be the proper component tones of a bell is not complete, seemingly to suit the writer's convenience. Mr. Lewis holds that the hum note in some bells should be a major 7th flattened *about* a quarter of a tone (this is an absurd direction when the exactness of tuning is properly appreciated), and that in others the hum note should be a perfect 8th with the strike note (tap tone). He maintains that these conditions produce the true bell tone as it is in the best ancient examples. I deny this absolutely. There is not the slightest reason why in one instance the hum note should be a harsh discordant interval and in another a perfect consonance. I am prepared to prove that the greatest masters of bell-founding tuned all their bells on the same principle—viz., the hum note and strike note in perfect 8ths. Mr. Lewis contends that when the hum note is a perfect octave from the strike note the bell gives out "unsteady sounds, confused and wavering." The opposite of this is the result of my experience, and there are hundreds of bells in this country at the present time which amply prove the fallacy of his statement. In his brochure Mr. Lewis mentions that the peal of eight he cast for St. Andrew's, Well Street, London, are in perfect tune. An analysis of the tones of these bells shows that he did not practise what he preached, for none of them satisfy his own conditions as to the hum note.

Reference is made to "Canon Simpson's heresies, which are emasculating the truest form of bell music in favour of a weak prettiness. As though it were the function of bells to tinkle tunes or one would wish Wagner's horns omitted from his orchestra."

I think your reviewer may be reasonably asked to explain what he means by "emasculating the truest form of bell music"; also what he considers to be the truest form of bell music, why Canon Simpson should be held responsible for this, and what Wagner's horns have to do with the matter.

I contend that a bell of good tone and tune is a musical instrument, and as such demands musical treatment; but I know there are some who prefer to look upon a bell as "a vessel or hollow body of cast metal, formed to make a noise by the action of a clapper" (Johnson).—Faithfully yours,

WILLIAM WOODING STARNER,

Fellow of the Royal Academy of Music.



9 CONDUIT STREET, LONDON, W., 9th January 1915.

CHRONICLE.

The Shadow over all: American Sympathy.

The Institute has been favoured with a copy of the Address delivered by Mr. Clipston Sturgis, President of the American Institute of Architects, at the Forty-eighth Annual Convention held in Washington on the 2nd December. We have room in the present issue for only a few sentences, and will reserve for a future occasion the eloquent passages in which Mr. Sturgis tells of the high aims and aspirations which govern the policy of the distinguished body for whom he speaks. Mr. Sturgis begins by a reference to the terrible conflict which is desolating the hearts and homes of millions of our fellow-beings. The plight of Belgium and France is known to us; but Poland is farther afield, and it needs the testimony of an eye-witness to bring home to us the sufferings of that unhappy country. "All Poland," says a message from Petrograd, "is going up in flame. What flame will not consume is being obliterated by gunpowder, by the axe, by pillage and requisitions. Poland is one vast ruin."

The sympathy of our American kinsmen is very precious to us, and Mr. Sturgis gives tactful expression to it. "I cannot speak to you to-day," he says, "except in the light of the trouble which casts its shadow over us all. Nations, peoples, individuals, to whom we owe much, whom we admire, whom we love, instead of working together for the advancement of art, science, and industry, and of, above all, our religious ideals, are testing the strength of modern armaments, and on each side giving freely of all that makes life precious and lovely, giving also life itself, for ideals. Instead of advancing side by side toward a common goal, they are attempting by force to establish ideals—of national growth—of national prosperity—of national honour."

"One only of these is worthy fighting for."

"We stand outside—we look on. There must be something to be learned here. Are we ready and fit to receive the lesson?"

"Our debt to those nations in all that goes to make up our complex civilisation is enormous. In science, in research, in industry, in the arts, in the power to govern through sympathy, we have learned nearly

all that we put into practice as a people from these our fathers. Many nations have contributed to our national life, and to all we are closely bound by ties of blood and by debts of gratitude. Only through sympathetic understanding and mutual forbearance can we hope to work out a great future. . . .

"Very especially may we who practise the complex art of architecture turn with loving sympathy towards those to whom we in especial owe so much, and try to learn the value of gaining our ideals in the right way. Force is the court of last appeal. Only when all else fails is force justified. To avoid the use of force every effort should be made to adjust differences by honestly trying to see both sides, to avoid differences by seeking first the points of agreement, by the exercise of sympathetic understanding."

Mr. Sturgis touches at length upon the ideals of his Institute, and concludes: "As I began, so I cannot but close—with the situation which dominates us to-day. If, in the march of events, we are destined to profit by the War, let us see to it that it is not materially but spiritually; not in increased business and foreign trade, but in a clearer understanding of the absolute interdependence of the peoples of the world, and the obligation on all to serve his fellow-man. Our hope and prayer is that the glare of this war may enlighten our understanding and kindle our hearts, so that we may at the end have that sympathy which shall enable us to see only that which is true, that which is honest, that which is just; and give our help to establish a peace founded on forbearance and governed by the highest standards of integrity and honour."

R.I.B.A. Record of Honour: Fifth List.

This Record is intended for the names only of Members, Licentiates, and Students R.I.B.A. who are actually on War Service. The following is the Fifth List:

FELLOWS.

Bone, C. B.: Captain, 4th Reserve Battalion Devon Regiment.
 Dick, Robert Burns, President Northern Architectural Association: Tynemouth Royal Garrison Artillery.
 Fraser, Gilbert, President Liverpool Architectural Society: Lieutenant, 1st City Bn. King's (Liverpool) Regiment.
 Lucas, R. M.: Motor Ambulance Corps.
 Mackenzie, A. G. R.: London Scottish.
 Thomas, Sir A. Brumwell: Lieutenant, Army Service Corps.

ASSOCIATES.

Ainsworth, John Cooper: R.N.V.R., Anti-Aircraft Corps.
 Brownrigg, A. H.: Lieutenant, Royal Marines.
 Burnett, A. S.: 5th Battalion Hants Regiment.
 Capper, Professor S. H.: Territorial, serving in Egypt.
 Cranfield, Sydney W.: Captain, Middlesex Regiment (Terr.).
 Cromie, Robert: Royal Army Medical Corps.
 Crone, Harold: Second Lieutenant, Royal Engineers.
 Davies, W. J.: Chief Petty Officer, R.N.V.R., Anti-Aircraft.
 Dobson, Walter E.: Motor Ambulance, British Red Cross.
 Edwards, Hewlett: R.N.V.R., Anti-Aircraft Corps.
 Fisher, Stanley Howe: Inns of Court O.T.C.
 Gibbons, J. Harold: Driver, Honourable Artillery Company.
 Gray, James Harry: Anglo-Belgian Ambulance Corps.
 Hadwen, Noel W.: Second Lieut., Duke of Wellington's Reg.
 Harrison, W. H.: East Lancs. (Terr.).

Heppel, F. H.: Lieut.-Col., 8th Batt. Worcester Regiment.
 Home, G. W.: Artists' Rifles.
 Howitt, T. C.: Lieutenant, 9th Leicestershire.
 Jardine, H. S.: Private, London Scottish.
 Jelley, F. R.: R.A.M.C.
 Jessop, Bernard: Second Lieutenant, 8th Battalion Yorkshire Regiment.
 Langman, Herbert: Royal Engineers.
 Notley, Albert Carr: Artists' Rifles.
 Petch, E. S.: 4th Royal Scots.
 Powell, Herbert Cecil: R.N.V.R., Anti-Aircraft Corps.
 Rhodes, Thomas Herbert: R.N.V.R., Anti-Aircraft Corps.
 Roberts, William John: R.N.V.R., Anti-Aircraft Corps.
 Rolley, Horace Edwin: R.N.V.R., Anti-Aircraft Corps.
 Rutter, W. Arthur: R.N.V.R., Anti-Aircraft Corps.
 Scott-Willey, H. H.: R.N.V.R., Anti-Aircraft Corps.
 Smithers, Alec: H.A.C.
 Waddington, H. G.: Duke of Lancaster's Own Yeomanry.
 Ward, William Henry: Lieutenant, 10th (Service) Battalion West Yorks Regiment.
 Warren, Henry George: R.N.V.R., Anti-Aircraft Corps.
 Webster, F. C.: London Scottish.
 Williams, Geoffrey Hyde: Inns of Court O.T.C.
 Wills, Gerald Berkeley: Inns of Court O.T.C.
 Mr. Joseph Garnet Hands, whose name appears in the Third List, is serving with the Artists' Rifles.

LICENTIATES.

Bowie, G. P.: Sergeant, 5th Battalion, 2nd Infantry Brigade, Canadian Expeditionary Force.
 Burnley, Tom: 2nd London R.A.M.C.
 Cameron, R. M.: Captain, 4th Reserve Battalion, Royal Scots.
 Croft, Christopher: O.T.C.
 Floyd, F. H.: 19th Battalion Royal Fusiliers.
 Fowler, Reginald H.: Captain, 5th Battalion Lincolnshire Regiment.
 Grey, George W.: 2nd Lieutenant, 14th R.W.F.
 Hibbert, Arnett: Infantry Battalion, H.A.C.
 Hout, John Winnall: R.N.V.R., Anti-Aircraft Corps.
 Jackson, T. Gordon: R.N.V.R., Anti-Aircraft Corps.
 Johnson, W. H.: R. E., Temporary Divisional Officer.
 Law, C. Orlando: 3rd Hussars (King's Own).
 Oglesby, Robert P.: R.E., Hon. Lt. and Inspector of Works.
 Phillips, A. M.: Captain, 8th King's Own Yorkshire L.I.
 Pullin, H. C.: Rifle Brigade.
 Reekitt, Frank Norman: Captain, 9th Battalion Duke of Cambridge's Own (Middlesex Regiment).
 Reeves, A. Seymour: 2nd London Sanitary Co., R.A.M.C.
 Roe, G. A. M.: Captain, 5th East Surrey Regt.
 Thomson, David: Chief Petty Officer, R.N.V.R., Anti-Aircraft Corps.
 Watson, William Ernest: Lieut., 1st City of London R.F.A.
 Mr. Thomas Hethorn Cunliffe, whose name appeared in the First List, is now serving as Lieutenant-Colonel of the 9th Battalion Manchester Regiment.

A list of 31 Students is held over for the next issue.

Architects at the Front: Killed in Action.

We regret to announce that the following architects have been killed in action:

Piper James Carey, 1st Battalion London Scottish, Member of the Society of Architects, L.C.C. Architectural Staff.
 Bugler M. S. Bryce, 14th County of London, L.C.C. Architectural Staff.

East African Architects at the Front.

Mr. Harold E. Henderson, *Licentiate*, Hon. Secretary of the East African Institute of Architects, writes from Nairobi under date 15th December:—

"I have just returned from the front, and received

the R.I.B.A. JOURNAL. I note on page 649 that you ask for names of Members and Licentiates of the Institute who have responded to the call of duty and are serving their country.

"I think it will be a record when I assure you that every architect and every architect's assistant in the Protectorates of British East Africa and Uganda have volunteered in some corps or another of His Majesty's forces, and the majority of them have actually been to the front, repelling the incursions of the Germans into British East Africa.

"A month after war was declared, in a camp on the Serengeti Plain, on the borders of British and German East Africa, there were present the President, the Treasurer and Hon. Secretary, two Members of the Council, and four ordinary members of the East African Institute.

"The only members of the R.I.B.A. in this country are the following Licentiates, who have all volunteered:

Charles Ernest Jackson, Uganda Volunteer Corps.
 Charles Marion Melville Leggett, Uganda Volunteer Corps.
 John Myers, * East African Mounted Rifles.
 Harold Edgar Henderson, * East African Pioneer Corps (Engineers).
 Herbert Lambert Geeson, * East African Rifles.

"Those marked with an asterisk have actually been to the front."

An Associate with the Machine Gun Section, Hong Kong.

Mr. A. G. Warnham Tickle [A.] of the Public Works Department, Hong Kong, writes:—

With regard to the war, I joined the Machine Gun Section, Civil Service Co., Hong Kong Volunteers, some months back. At the beginning of August strenuous efforts were made to get all eligible men to join the Volunteers. There were strong rumours of a Chinese Revolution, but not while the heavy rains last, as John Chinaman cannot do anything in wet weather—not even fight. It is amusing in the streets to see the natives on wet days take off their shoes and carry them, whilst they slop through the mud and slush barefoot.

Hong Kong was placed under martial law; all Volunteers and Reserves were mobilised with full equipment in twelve hours. We spend our time in barracks, and under canvas on Stonecutter Island (where we have a number of German prisoners). It was terribly hot work under the August sun, marching in full kit, making trenches, and fixing up barbed wire entanglements, with the temperature at 120 degrees. We wear our uniforms all the time; at business during the day, and sleep in them at night. We have had several of our men in hospital; one unfortunately died, and we buried him with military honours.

Sentry duty in the bush at night is rather interesting; one can't see, and at the least noise one wonders where it may be from and what it is. It's not so bad at night on some of the roads, holding up motors. I was temporarily placed *hors de combat* during the early part of August with a cut foot and sprained wrist. In September we had a "full strength" route march through the Chinese quarters, as some of the natives were getting restless. Owing to the typhoon rains we were unable to continue under canvas, so we're now stationed at the City Hall.

The Artists' Rifles.

It has been decided to raise a Third Battalion of the Artists' Rifles (28th Battn. County of London Regiment) at once. The Corps is composed of Painters, Architects, Sculptors, Lawyers, Doctors, Medical Students, University Students—in fact, all classes of professional men and old Public School boys. All men coming under this category and willing to undertake the liability of Foreign Service should apply at once to the Officer Commanding the Depot, Duke's Road, Euston Road, W.C.

Appointments for Architects in France.

Several well-qualified men are required at once by the War Office to act as Inspectors of Works in France, and such appointments will carry temporary commissions and corresponding pay in the Royal Engineers. Physical fitness, a thorough knowledge of the French language, and a general knowledge of the control of labour in France, are absolutely essential, coupled with sound experience in constructive work and powers of resource and rapid decision. As these appointments will involve responsibilities in connection with the lines of communication, only thoroughly well-qualified men can be recommended. Applications should be made in writing, in the first place, to the Secretary R.I.B.A.

The New Post of Chief Town Planning Inspector to the Local Government Board.

The President of the Local Government Board has shown admirable discernment in selecting a member of the architectural profession for the newly created post of Chief Town Planning Inspector—that is to say, Chief Technical Adviser in the Town Planning Department of the Local Government Board. The business of town planning belongs to the architect. As Mr. John W. Simpson so happily puts it in the Preface to the *Transactions of the Town Planning Conference, 1910*: "The phrase 'town planning' has different meanings in different mouths. To the medical officer of health it means sanitation and healthy houses; to the engineer, trams and bridges and straight roads, with houses drilled to toe a line like soldiers. To some it means open spaces; to the policeman, regulation of traffic; to others, a garden plot to every house, and so on. To the architect it means *all* these things, collected, considered and welded into a beautiful whole. It is his work, the work of the trained planner, to satisfy all the requirements of a town plan, and to create in doing so a work of art." Mr. Herbert Samuel's choice for the post has fallen upon Mr. Raymond Unwin [F.], whose labours in this branch of art have won for him universal recognition as an authority. Three editions of Mr. Unwin's book *Town Planning in Practice* have been issued, and translations in German and Hungarian have been published. He is Special Lecturer on Civic Design and Town Planning in the University of Birmingham, Hon. Secretary of the R.I.B.A. Town Planning Committee, Lecturer on Town Planning for

the Architectural Association, Vice-President of the Town Planning Institute, member of the Departmental Committee which prepared a Report for the Board of Agriculture on Buildings for Small Holdings, member of the Advisory Departmental Committee of the Board of Agriculture on Labourers' Cottages, and member of the Departmental Committee of the Local Government Board on Building By-laws. Mr. Unwin was the organiser of the R.I.B.A. Town Planning Exhibition held at the Royal Academy in connection with the Conference of 1910. He has been Town Planning Adviser to the Admiralty in connection with the development of Rosyth, and for King's College, Cambridge, in connection with the Ruislip Town Planning Scheme. He has visited the City of Halifax, Canada, to advise the authorities on the town planning there. His works at home include Earswick Village (plan and buildings), Letchworth Garden City (plan and buildings, including Howard Hall and Estate Office), and Hampstead Garden Suburb (plan and many buildings). Mr. Lanchester, when reading the Paper on Civic Development Survey, printed elsewhere in this issue, took occasion to congratulate the Government on their choice of an adviser, and also Mr. Unwin on his taking up the position. The whole community, he remarked, would now reap the benefit of Mr. Unwin's many years' arduous study of Civic Design and Town Planning.

Civic Development Survey.

Mr. Lanchester's Paper, "Civic Development Survey as a War Measure," printed elsewhere in this issue, attracted an appreciative audience at the Institute on the 17th ult. The meeting had been convened by the Architects' War Committee, and the fine collection of drawings got together to replace a portion of Professor Geddes' lost Exhibition [see JOURNAL, 19th December, page 93] served as illustrations to the Paper, and made a very interesting side show. A suggestive discussion followed, being contributed to by Mr. Raymond Unwin, Mr. W. R. Davidge, Mr. V. Bell, and Mr. George Hubbard, F.S.A., Chairman of the meeting.

Award of the Ashpitel Prize, 1914.

On the recommendation of the Board of Architectural Education the Council have awarded the Ashpitel Prize for 1914 to Mr. George Eric Francis, as "the candidate who has most highly distinguished himself in the Examinations held during 1914."

New Election; Obituary.

At the Business Meeting last Monday Mr. PERCIVAL MITCHELL WARE, who passed the Qualifying Examination last July, was the only candidate for membership and was duly elected Associate.

At the same meeting the decease was announced of Edwin Arthur Johnson, of Abergavenny, *Fellow*, elected 1899, and William Newton Dunn, elected *Associate* 1882, *Fellow* 1906.

THE EXAMINATIONS.

Preliminary.

The Preliminary Examination, qualifying for registration as Probationer R.I.B.A., was held in London and the under-stated provincial centres on the 24th and 25th November 1914. Of the 70 candidates admitted, 25 were exempted from sitting, and the remaining 45 examined, with the following results:—

Centre.	Number Examined.	Passed.	Relegated.
London	22	12	10
Cardiff	2	—	2
Birmingham	3	1	2
Leeds	3	3	—
Liverpool	3	2	1
Manchester	11	6	5
Newcastle	1	—	1
	45	24	21

The passed and exempted candidates—numbering 49 altogether—are as follows:—

ADAMS: George Eric, Yorecroft, Ripon, Yorks.
 ADAMS: Henry Augustus Davis, "Invermeath," Holywell Avenue, Monkseaton, Northumberland.
 AMBLER: Harry James, 18 Devonshire Mews East, Portland Place, W.
 BAILEY: Clarence Howard, 62 Coggeshall Road, Braintree.
 BANNISTER: Harry, 65 Edith Grove, Fulham Road, S.W.
 BENNETT: James, c/o Messrs. John Burnet & Son, 239 St. Vincent Street, Glasgow.
 BENNETT: Walter James, Rigmund, Buchanan Gardens, St. Andrews, Fife.
 BEVILLE: Alfred Geoffrey, 7 Downshire Hill, Hampstead.
 BUCHANAN: Allan P., 274 Renfrew Street, Glasgow.
 BULSTRODE: Stanley Godwin, "Veetis," Bishop's Waltham, Hants.
 CARTWRIGHT: William Frederick, 20 Cambridge Street, Loughborough, Leicestershire.
 CASSIDY: Gerald Austin, 4 Clarendon Street, Preston.
 CHAPMAN: Fred William, "Fairfield," Tapton Crescent Road, Sheffield.
 CLARK: Harold Goundry, Summerhill, Abbey Road, Darlington.
 CRAWLEY: Albert, c/o H. H. Dunn, Esq., St. Peter's Churchyard, Silver Street, Lincoln.
 ELLIOTT: Charles C., 18 Station Street East, Coventry.
 FARRIER: Archibald Victor, 222 Canbury Park Road, Kingston-on-Thames.
 FORGIE: Alex. Garden, 33 Summerside Place, Leith, Scotland.
 GAMON: Charles Stott, Rossmore, Neston, Cheshire.
 GENNER: Leopold John Ellacott, "Mayfield," Blenkarne Road, Wandsworth Common, S.W.
 GORDON: Percy James, 8 Mecklenburgh Street, W.C.
 GREASLEY: John Nigel, "Clovelly," Wentworth Avenue, W. Southbourne, Hampshire.
 HAIRD: Tom William, 56 Wilberforce Road, Leicester.
 HAMILTON: Andrew Blayne, Bloomsbury Club, Cartwright Gardens, Tavistock Square, W.C.
 HOWELL: Norman Asquith, 14 Glebe Road, Reading.
 HULME: Frank Victor, 1 Clare Street, Harrogatehead, Stoke-on-Trent, Staffordshire.
 JONES: Frederick William, Town Hall, Rochdale.
 KELLER: Cecil Frederick, Edgehill, Winchester.
 KOCH: Martin Douglas Niel, St. Saviour's Vicarage, Eton Road, Hampstead, N.W.
 LOVELL: Jack Pritchard, 56 Molineux Street, Derby.
 LOWE: Joseph Samuel, 127 Claremont Road, Moss Side, Manchester.
 MILLARD: Joseph Arthur, 8 Wiltshire Road, Brixton, S.W.

MITCHELL: Cyril Hawthorn, c/o Messrs. Bond & Batley, 115 Gower Street, W.C.

MITCHENER: Wallace George, "The Haven," 28 Montpelier Rise, Woodstock Avenue, Golder's Green, N.

NUNN: John Price, 91 Camp Street, Lower Broughton, Manchester.

PEEL: Arthur, Church Street, Staveley, Chesterfield.

PIDDUCK: John Cliffe, Grove House, Alsager, Cheshire.

REMNANT: Eustace Archibald, 185 Croydon Road, Anerley.

ROBERTS: Kenneth Morris, 4 Vanbrugh Park Road, Blackheath, S.E.

ROGERS: William Jelf, 152 Stow Hill, Newport.

SMITH: George Arthur, 23 Alexandra Road, Hull.

STOKES: Leslie Richard, Bridge House, Beaconsfield.

SUGDEN: Howard Davey, Sunnyside, Peel Moat Road, Heaton Moor, Stockport.

TANSLEY: Harry, 15 Stuart Street, Leicester.

THOMAS: Frederick Leonard, Taunton School, Taunton.

THOMAS: Lionel George Throphilus, Perse School House, Glebe Road, Cambridge.

THILLIA: Richard Simons, 16 Richmond Terr., Clifton, Bristol.

WATSON: Harold, Newall Carr, Otley.

WILSON: Reginald Alex. Gibson, 259 Oxford Street, Swansea.

Intermediate.

The Intermediate Examination, qualifying for registration as Student R.I.B.A., was held in London and the under-stated provincial centres from the 20th to the 27th November 1914. Thirty-four candidates were examined, with the following results:—

Centre.	Number Examined.	Passed.	Relegated.
London	12	6	6
Belfast	1	1	—
Cardiff	3	2	1
Leeds	4	1	3
Liverpool	1	—	1
Manchester	10	7	3
Newcastle	3	2	1
	34	19	15

The passed candidates are as follows, the names being given in order of merit as placed by the Board of Architectural Education:—

LLOYD: Albert Peregrine [P. 1911]; 5 The Promenade, Swansea.
 DARTNALL: James Ambrose [P. 1910]; Forest House, High Stone, Leytonstone, N.E.
 HELLIWELL: Henry Cartwright [P. 1912]; 74 Plymouth Grove, C. on M., Manchester.
 STEWART: Cuthbert Bertram [P. 1912]; 29 Stanhope Road, Darlington.
 FENNER: Leslie [P. 1909]; 63 Laburnum Avenue, The Garden Village, Hull.
 MITCHELL: Cyril Hawthorn [P. 1914]; c/o Messrs. Bond & Batley, 115 Gower Street, W.C.
 WESTON: Kingsley Vale [P. 1912]; 19 Epperstone Road, West Bridgford, Nottingham.
 KNIGHT: Douglas Edward [P. 1912]; 29 Millicent Road, West Bridgford, Notts.
 CLAYTON: Gerald Rupert [P. 1912]; 2 Oozehead Lane, Blackburn.
 COTTINGHAM: Garnet Reginald [P. 1912]; 37 Vernham Road, Plumstead, Woolwich, S.E.
 EVANS: Henry Goronwy [P. 1912]; 5 North Parade, Carmarthen.
 PROFFITT: George Wallace [P. 1912]; Memorial Road, Walkden, nr. Manchester.
 ROBERTS: Evan Wendell [P. 1911]; Railway Inn, Penclawdd, Swansea.
 SCOTT: Noel E. [P. 1913]; 6 Summerhill Terrace, Wellington Road, Cork, Ireland.

SPENCE: William Needham [P. 1913]; "Lithgow," Oakley Road, Ranelagh, Dublin.
 STEWART: Adam Knowles [P. 1913]; Creeve, Loughgelly, Co. Armagh.
 STREADWICK: Vernon James [P. 1913]; 47 Trent Road, Brixton Hill, S.W.
 WILSON: Robert, jun. [P. 1909]; Almalea, Falkirk.
 WOOD: Arthur George [P. 1913]; The Parsonage Farm, Brencley, Kent.

The number of failures among the relegated candidates in each subject of the Intermediate Examination was as follows:—

A. Principal Styles and General History of Architecture	7
B. 1. Simple Applied Construction	9
B. 2. Theoretical Construction	10
C. 1. Historical Architecture	3
(a) Greek and Roman	1
(b) Byzantine and Romanesque	—
(c) French and English Gothic	1
(d) Italian, French, and English Renaissance	—
C. 2. Mathematics and Mechanics	—
C. 3. Design	4

Exemptions from the Intermediate.

The following Probationers, trained at the Schools mentioned and possessing the Certificates required under the regulations, were exempted from sitting for the Intermediate Examination, and have been registered as Students R.I.B.A.:—

BENNETT: James [P. 1914]; c/o Messrs. John Burnet & Son, 239 St. Vincent Street, Glasgow. [Glasgow School of Architecture.]
 BROWN: James McLellan [P. 1913]; Green Street, Stonehouse, Lanarkshire. [Glasgow School of Architecture.]
 BURNET: Edith Mary Wardlaw [P. 1913]; 59 Queen's Road, Aberdeen. [Aberdeen School of Architecture.]
 DEERY: Douglas Charles Lawford [P. 1912]; 62 Redington Road, Hampstead, N.W. [Architectural Association School of Architecture.]
 DUNCAN: Ronald Aver [P. 1907]; 31 Glebe Place, Chelsea. [Architectural Association School of Architecture.]
 FISHER: Henry Nettleton [P. 1910]; 84 Hungerford Road, Camden Road, N. [London University School of Architecture.]
 GORDON: Percy James [P. 1914]; 8 Mecklenburgh Street, W.C. [Sydney Technical College.]
 HAMILTON: Andrew B. [P. 1914]; Bloomsbury Club, Cartwright Gardens, Tavistock Square, W.C. [Architectural Association School of Architecture.]
 KOCH: Martin Douglas Niel [P. 1914]; St. Saviour's Vicarage, Eton Road, Hampstead, N.W. [Architectural Association School of Architecture.]

In accordance with the special concession granted by the Council to Probationers on military service—viz., "Candidates for the Intermediate Examination whose Testimonies of Study are approved, to be registered as Students"—the following Probationers have been exempted from sitting for the Intermediate Examination and have been registered as Students R.I.B.A.:—

AITKEN: James Hunter [P. 1912]; Biddles Farm, Farnham Royal, Slough.
 ALLEN: George Alfred [P. 1909]; 34 Jaffray Road, Bromley, Kent.
 CLIFTON: Edward Noel [P. 1913]; 7 East India Avenue, E.C.
 CUNDALL: Philip Henry [P. 1913]; "E" Company, 4th Public Schools Battalion, Royal Fusiliers, Leatherhead.
 CURWEN: John Spedding [P. 1909]; c/o J. F. Curwen, Esq., 24 Highgate, Kendal.

DAVIS: Harold Sidney [P. 1911]; "Amalfi," Tankerton Road, Whitstable.
 EVELHIGH: Graham Tom [P. 1911]; 7 Northfield, Bridgewater, Somerset.
 FISHER: Kenneth John [P. 1907]; 1 Comely Bank Road, Egrement, Cheshire.
 JEFFREYS: Harold Murton [P. 1911]; 127 High Street, Maldon, Essex.
 JONES: Charles Frederick [P. 1911]; 9 Howard Gardens, Cardiff.
 MULLINS: Geoffrey Thomas [P. 1912]; 18 West Heath Avenue, Hampstead, N.W.
 PYTE: Robert Wm. [P. 1911]; 13 Elm Grove Road, Ealing, W.
 RIX: Alec Donald [P. 1911]; London House, Acle.
 RUDMAN: Walter [P. 1911]; "Laleham," Clarence Road, Clapham Park, S.W.
 SNELL: Alfred [P. 1911]; Church Street North, Liskeard.
 VERGETTI: Robert George [P. 1912]; 7 Walter Road, Swansea, South Wales.
 WILKINSON: Walter George [P. 1910]; 23 Oppidans Road, Primrose Hill, Hampstead, N.W.

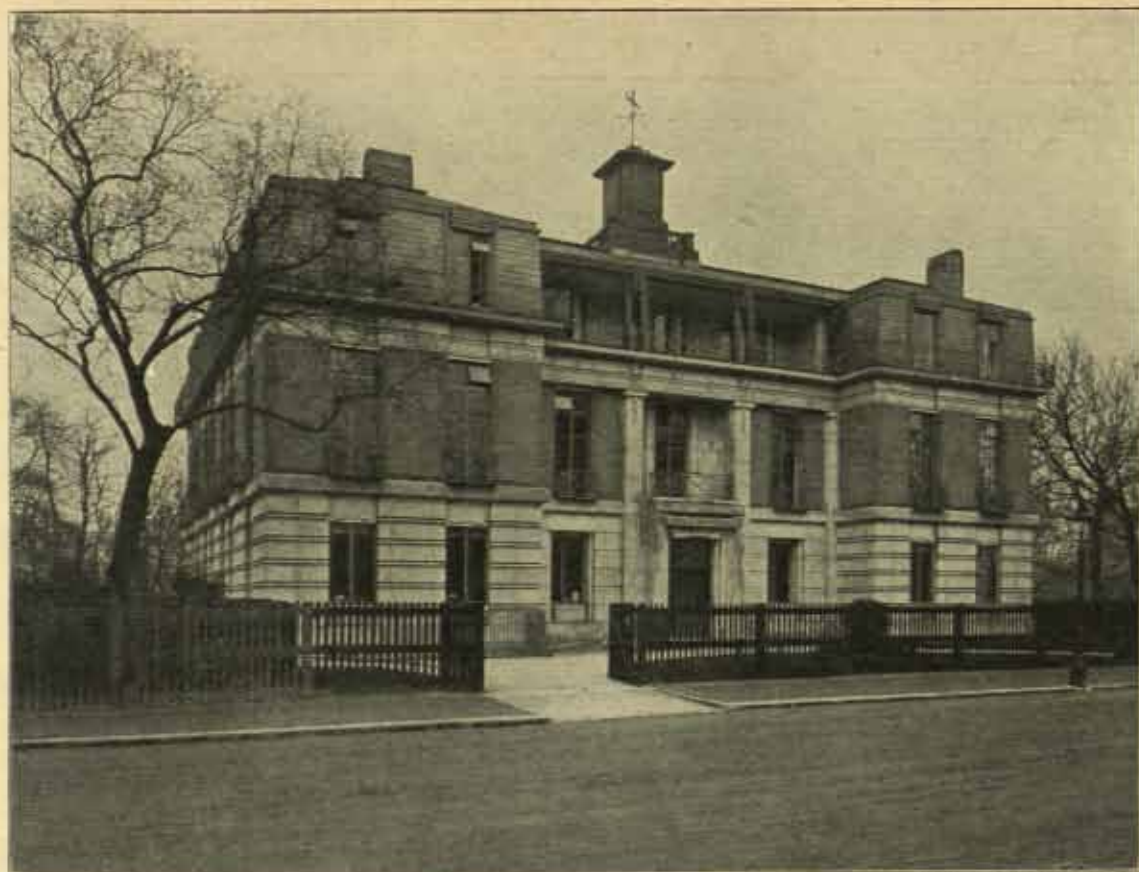
Final and Special.

The Final and Special Examinations, qualifying for candidature as Associate R.I.B.A., were held in London from the 3rd to the 11th December 1914. Of the 42 candidates examined, 17 passed, and the remaining 25 were relegated. The successful candidates, given in alphabetical order, are as follows:—

ABERCROMBIE: Leslie Patrick [Special]; The University, Liverpool.
 BARROW: Thomas Henry [S. 1908]; 100 Shenley Road, Camberwell, S.E.
 BASTA: Habib [Special]; 17 Endymion Terrace, Finsbury Park, N.
 BROWNAGREE: Naserwanji Manherji [S. 1911]; 1 Gordon Place, Gordon Square, W.C.
 BOTHWELL: Edwin Forbes [S. 1911]; "Blackhall," 211 Romford Road, Forest Gate, Essex.
 CARMICHAEL: David Arthur [S. 1914]; Netherton, Greenock, N.B.
 DAVISON: William Robert [S. 1910]; Longhirst Brooks, Morpeth.
 FRANCIS: George Erie [S. 1912]; 115 Newlands Park, Sydenham, S.E.
 GEORGE: Thomas [S. 1913]; 1 Okus Road, Swindon, Wilts.
 GIBBON: Blakeley Binder [S. 1904]; Windsor Terrace, Garforth, near Leeds.
 JENKINS: Trevellyn Phillip [S. 1910]; 276 Oxford Street, Swansea, Glam.
 JEPSON: Henry Norman [S. 1910]; 13 Chatham Road, Kingston-upon-Thames.
 MEREDITH: Edward [S. 1912]; Tyllwyd, Newbridge-on-Wye.
 OWEN: Albert Henry [S. 1909]; 71 Marlborough Road, Upper Holloway, N.
 SOPER: Stanley George [S. 1912]; 50 Woodville Road, Golder's Green, N.W.
 THISCOTT: Harris Stephens [S. 1911]; 2 Iverson Road, Brondesbury, N.W.
 WILSHIRE: Reginald Sharman [S. 1912]; 60 Trinity Road, Chelmsford, Essex.

The number of failures among the relegated candidates in each subject of the Final Examination was as follows:—

A. Design	20
B. Construction—	
(1) Foundations, Walls, Roofs, &c.	14
(2) Iron and Steel	15
C. Hygiene	11
D. Properties and Uses of Building Materials	5
E. The Ordinary Practice of Architecture	8
F. The Thesis	1



(Photo. *Architectural Review*.)

FIG. 8. ZOOLOGICAL SOCIETY'S OFFICES, REGENT'S PARK. (JOHN BELCHER, R.A., and J. J. JOASS, Architects.)

THE WORK OF THE LATE JOHN BELCHER, R.A.

By J. J. JOASS [*F.*].

(Continued from page 106.)

AS all who knew him are aware, Mr. Belcher was of a singularly modest and retiring disposition, and he only undertook the Presidency of the Institute as the result of great pressure by some of his friends. How ably, and even brilliantly, he filled the post most of us will remember. The International Congress of Architects took place during his term of office, and besides presiding at all the principal functions and meetings he delivered a very able and inspiring opening address in the Guildhall, and contributed an excellent Paper on the Education of the Public in Architecture, a project that he did so much to further and encourage. The position he occupied in relation to both the professional and artistic sides of architecture was a great asset to the Institute. The accession of a large number of well-known men during his term of office who had hitherto remained outside was, I may say, due to his personal influence, many of these men having been associated with him as friends in the Art Workers' Guild. Their accession has been of the greatest importance and benefit, and two of our Presidents have already been drawn from their number.

It is gratifying to recall the tribute paid to him on this occasion by the various architectural organisations taking part in the Congress, both on the Continent and in America, by bestowing upon him the honorary membership of their various societies.

In the year 1907 he was elected Royal Gold Medallist, and on that occasion Mr. Thomas Colcutt

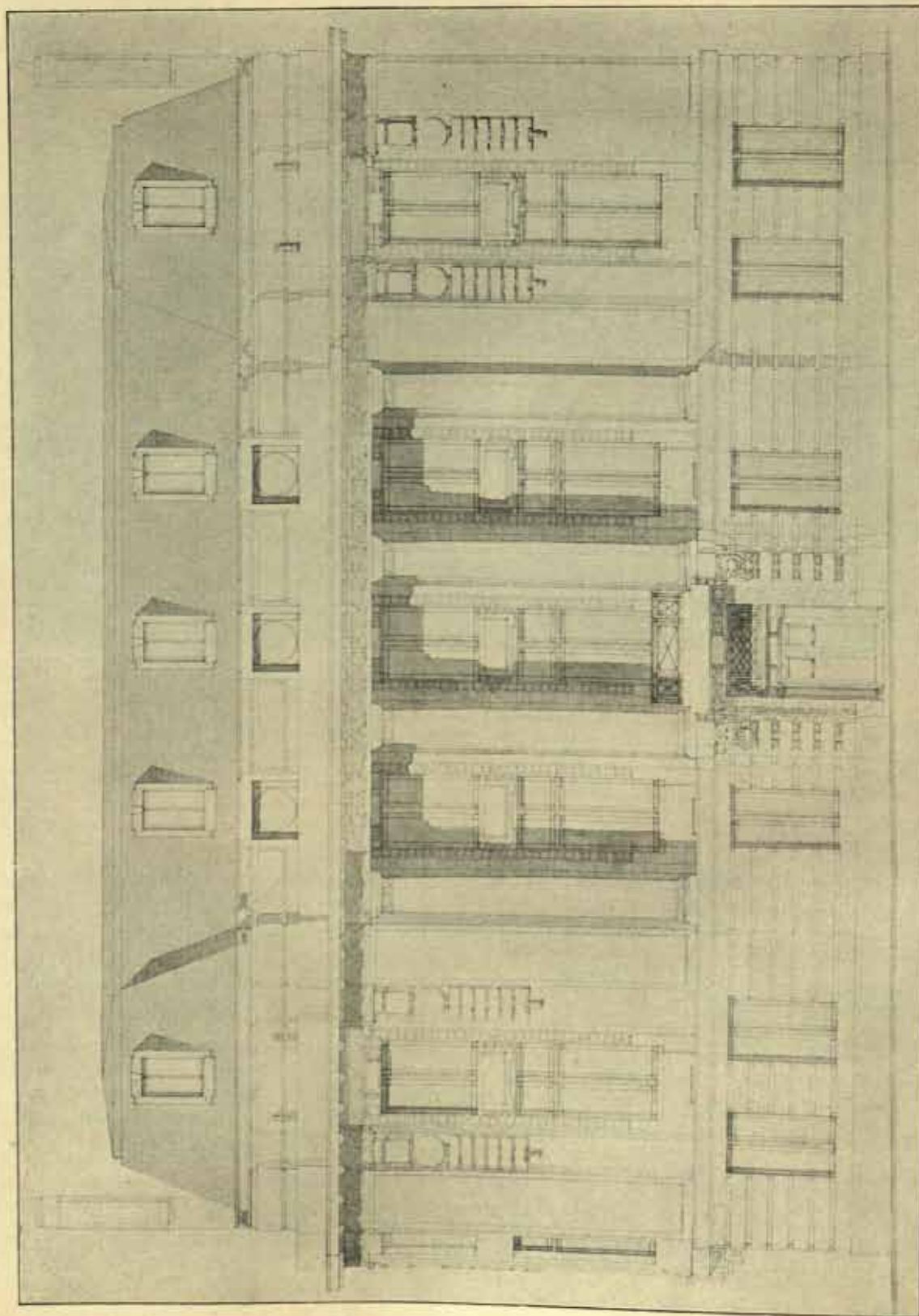


FIG. 2. PREMISES OF THE ROYAL SOCIETY OF MEDICINE AS INTENDED TO BE COMPLETED. (John Belcher, R.A., and J. J. Jones, Architects.)

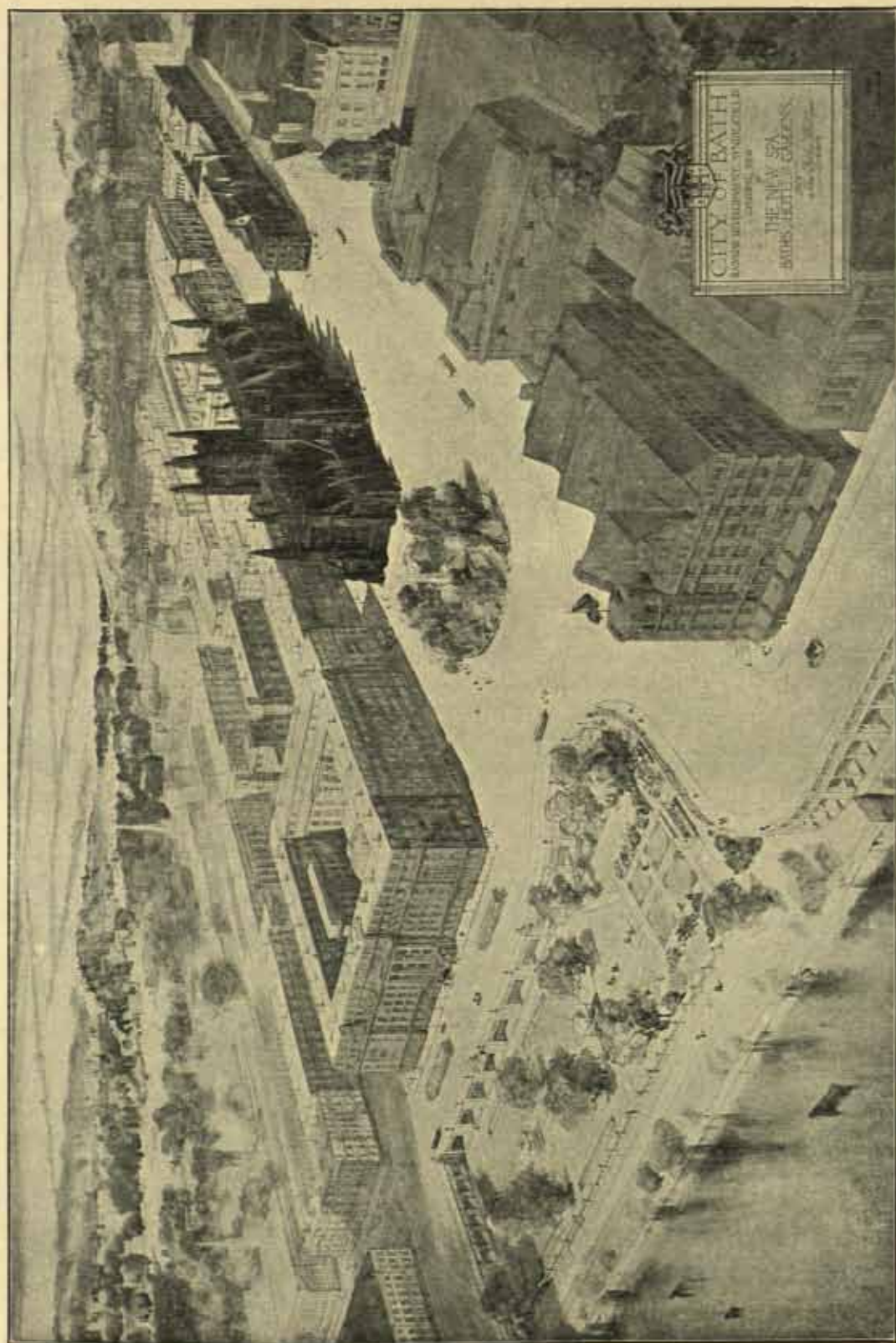


FIG. 10. SCHEME FOR THE RECONSTRUCTION OF THE CITY OF BATH. (John Belcher, R.A., and J. J. Johns, Architects.)

in the course of his address gave an excellent résumé of his career, which appeared in the *Institute Journal*.*

On the occasion of his election to the Royal Academy soon afterwards, he was the guest of honour at a banquet given by members of his staff, past and present, who met to give expression to their appreciation of him as an artist and esteem for him as a man. Perhaps of all the compliments paid to him he esteemed this the most. He referred to it as one of the happiest and proudest moments of his life. He was elected Royal Academician in the year 1909, and took the keenest interest in the work of the Academy. His intercourse with his fellow-members was of the most pleasant description.

In his later years illness interfered seriously with his activities and the state of his health gave great anxiety to his friends. An increasing portion of the responsibility of the work of these years naturally fell into my hands, but I think I may say that Mr. Belcher was most keenly interested in and in thorough sympathy with all that was done.

Among the works which are characteristic of these later years are the following:—

The Royal Society of Medicine, in which many of the leading medical associations are housed. This building is intended to be completed by the addition of a roof-story, as will be seen in the drawing [fig. 9].

Holy Trinity Church, Kingsway, is another building chiefly interesting for its plan. This was originally intended to be a domed structure executed entirely of ferro-concrete, the main dome being elliptical in shape. Owing to want of funds, however, this had to be given up and a barrel-vault of ordinary steel construction substituted. The tower is intended to be a feature of the design, but so far consists of the foundation only, a massive raft of ferro-concrete five feet thick. It will occupy a position immediately behind the porch, which has been kept entirely clear of the church itself in order to allow of separate subsidence on the uncertain soil.

The new offices for the Zoological Society in Regent's Park is another building lately finished [fig. 8]. The mansard roof was arranged owing to a restriction on the height of the wall by the Crown authorities. The building contains the Council Chamber, Library, and administrative offices of the Zoological Society.

A rather unique and interesting structure is the Mappin Terraces, with which, no doubt, most of you are familiar; it owes its inception to Dr. Chalmers Mitchell of the Zoological Society. Owing to the congested state of the gardens at this point, he hit upon the idea of forming an animal garden on the lines of Hagenbeck's, upon a raised platform or terrace, so as to provide the necessary space and cover for administrative purposes below. Subsequently the idea of successive tiers or terraces was developed, and later a restaurant and other accessories. Owing to the requirements of the London Building Act the work had to be constructed entirely of ferro-concrete averaging $4\frac{1}{2}$ inches thick. This, of course, had its effect on the modelling of the mountains, and the flights of fancy which are to be seen at the Hamburg Zoo have necessarily not been attempted. The great cost of this form of construction was also a very important factor, together with the restricted site, in limiting the extent and scope of this structure.

Whiteley's new store is also unfinished, and the effect of its completed form is difficult to estimate. It is almost impossible to get a satisfactory photograph of this building owing to its great length. This is a case in which the L.C.C. regulation that no floor may be above the level of 60 feet from the pavement is a great hardship. It makes it almost impossible to construct economically a really convenient store of this magnitude, owing to the immense area which it must necessarily cover. The

* JOURNAL R.I.B.A., 29 June 1907, where will be found views of Cornbury Park, Electra House, the Royal London Friendly Society's premises, the Institute of Chartered

Accountants (London Wall), the Lowell Hall (Stowell Park), Kington Church, and Colchester Town Hall.

architectural effect of the façade, moreover, would be immensely increased by the addition of, say, two more stories to the height. This is one of the things they are able to do much more conveniently on the Continent, and particularly in the United States, and also in parts of our own country.

Fig. 10 shows part of a comprehensive scheme for the reconstruction of the City of Bath. The old Roman baths were to have been incorporated, with hotel, gardens, etc., the present dilapidated buildings in this area being cleared away.

Mr. Belcher's connection with the Institute has been a long and honourable one. It began in the year 1869, when he became an Associate. He was elected a Fellow in 1882, and since then has served the Institute, and the profession which it represents, in a multitude of ways.

In 1903 he was appointed a member of a Committee to advise the Government on the conduct of its great building schemes in Parliament Street and elsewhere. He was a member of the Improvements Reform Committee and the London Architectural Vigilance Committee. He was appointed by the Institute to represent them before the House of Commons Committee on architectural copyright in 1909, and was one of the Advisory Council to assist the Architectural Association in their School of Architecture. He was a member of the Advisory Committee for the rebuilding of Regent's Quadrant, whose deliberations resulted in Mr. Norman Shaw's design for the Piccadilly Hotel.

In 1906 he was nominated to the Board of Experts to inquire into the stability of St. Paul's Cathedral, and was a member of the Committee of Selection for the proposed Shakespeare Memorial.

He was also a member of the International Board of Assessors appointed to adjudicate upon the designs for the University of California, and was presented with the freedom of the City of San Francisco on that occasion.

Mr. Belcher was endowed with a most receptive and inquiring type of mind. New ideas appealed to him irresistibly, and he was never content to reproduce mechanically the features of a past age in architecture. In his later years I think he felt that the tradition of English architecture had by no means come to an end at the point where it was left by Soane, and later Donaldson and Elmes, but that it might be carried on in a logical and natural way to meet all the demands that modern conditions might put upon it; and I think that a good deal of the contemporary work of younger men is proving every day that this is possible.

He was a draughtsman of no small ability. There is an excellent detail drawing of his in the Diploma Gallery of the Royal Academy, showing the complete elevation of the Ashton Memorial. His sketch books are full of charming pencil and water-colour drawings. I remember years ago showing one he had given to me to a raw but promising student of the Royal Academy schools, which extorted the unwilling comment, "Fancy an R.A. being able to draw so well as that."

He had a great love for music, and was the possessor of a beautiful voice. In his younger days he was an accomplished singer—in fact, he had serious thoughts of adopting music as a profession. He enjoyed the friendship of the late Professor Ella, at whose house he had the privilege of meeting almost all the great musicians of the day when they gathered in London to take part in the Musical Union Concerts at the old St. James's Hall. He also performed in many fine public concerts himself, taking the bass solo parts in *Elijah*, *St. Paul*, and other oratorios. Indeed, all forms of art appealed to him. As Professor Pite has said in this room, "of all modern architects he may be said to have felt most the breadth of art as a whole, his sympathy being equally with the sister arts of painting and sculpture as with his own art of building."

His modesty and sympathy attracted specially to him those younger than himself, making him a most charming companion and friend, one whose death all who knew him sincerely mourn as a loss to his profession and to his country.

DISCUSSION ON MR. JOASS'S PAPER.

THE PRESIDENT, MR. ERNEST NEWTON, A.R.A., in the Chair.

PROFESSOR BERESFORD PITE [*F.*]: I propose with very great pleasure a vote of thanks to Mr. Joass. The Paper could not have been easy to write, to one so intimately connected with Mr. Belcher as Mr. Joass was to the end, with breadth of view and judicious criticism—sympathetic and accurate. Belcher's work is as interesting, and in many ways as delightful, as Belcher himself. I do not propose to refer again to the many-sided charms of his friendship; but his work, whether it is altogether equal in force to the charm of his personality, certainly exhibits similar wide sympathies, and exhibits that ready hearing, power of appropriation, of assimilation of ideas which is so characteristic of the whole school of modern architecture. If we reflect upon the work of the great men of Belcher's youth—which may be illustrated by the work of his own father, who, without being a great architect in the sense in which his son was, was a man of marked character—we see a rigorous adherence to the old Classic type of design, characteristic of a "City" architect. In Belcher's youth there would have been all the narrow force of the Classical school operating upon him in his father's office; outside that office, the equally narrow force of the vivid Gothic revival; and behind were grouped professors like Donaldson, Cockerell, Lewis, and others with whom I do not think he was brought personally into contact. I do not think we can indicate any source from which he derived the wide sympathy and the power of assimilating what was beautiful and good in a number of styles, and the breadth and liberality of view which always characterised his work. In that way he is singular, and a leader characteristic of his generation which has not yet passed away. Standing among men of fixed Classic tradition, by the side of men of vigorous Gothic fire, he moved in both spheres. Mr. Joass has referred to the Royal Insurance building in Lombard Street, which I very much regret has been pulled down within recent years, one of the Classic buildings which showed the type of his training, with some tender modifications in the direction of sculptural treatments. After this came vigorous excitements of the Gothic Victorian building at the corner of the Poultry. Belcher was fired at that time with affection for Burges' Law Courts design, and this very well-known building, which is so prominent a feature in the central landscape of the City, was the result. It is strange that not many years afterwards the same client acquired the opposite end of the site, that looking up the Poultry westwards, and there Belcher built in a very different school, reflecting the influence on his mind of the more vigorous and powerful New Zealand House in Leaden-

hall Street which Mr. Norman Shaw had only just completed. He was inspired, like Mr. Joass, to defy the County Council and get overhanging eaves and roofs in spite of the existence of fire-proof parapets. Between those two Poultry buildings came the original Curriers' Hall, and then the second Curriers' Hall, for there were two built, one soon after the other. Belcher used to chuckle to himself about his luck. He built the original Curriers' Hall, in London Wall, close to the warehouse of a very progressive warehouseman, the celebrated John Rylands, the founder of the library at Manchester, who acquired the Hall and for whom Belcher built his warehouses, and a second Curriers' Hall, fronting London Wall. A few years after it was finished, a fire destroyed Rylands' warehouse, and threatened the existence of Curriers' Hall, and Belcher's luck ensured him a very considerable increase in the area of the job. The second Curriers' Hall was built at a period that reflected ardent zeal for late French Gothic translated with very considerable feeling and skill. One could scarcely imagine the man who built the stiff Gothic of the first Poultry building to be capable of the freedom, breadth, originality and freshness of this front, which was modelled on the house of Jacques Coeur at Bourges. Then the movement towards everything which was fresh and inviting was always taking place. He had a profound affection for Norman Shaw. I knew him in the early days before he had met Shaw, when he had treasured up every feature and characteristic of his work: the crooked passages, the inviting window ravines and tumbling stairs, all had a fascination for Belcher when I first knew him, and we drank of the stream together. In a few years he shared the earnest additional stimulus which Norman Shaw's charming humour imparted to his personality. Belcher became an enthusiastic follower of his methods; many of his smaller domestic works are excellent and delightful illustrations of that peculiarly home-like feeling which a clever architect can impart into an antiquated and unhome-like style, bringing to modern requirements the charms and all the quaintness and rusticity of ancient buildings. I would venture the opinion that in this direction Belcher's genius found its truest exercise. He was a master of homely and direct quaintness, and had a natural consciousness of internal charm, a quick eye for home-like domestic quality in design, and his houses settled well on to their grounds. Consequently the garden soon became an object of great interest to him; and many of the garden plans and designs which he did are worthy of study. A large element of originality enters into the garden schemes

which he evolved, with the effects that he felt for and created. At this period, as Mr. Joass remarked, his work with Mr. Batsford and Mr. Macartney, travelling all over England for a term of years visiting the places that we find in the book on later Renaissance Architecture, had a considerable influence on his designs. It would have been difficult to find anybody more calculated to do justice to that particular class of work than Belcher; bringing it together, editing it and enjoying it, entering into it with enthusiasm. The effect of that book on current architecture is altogether remarkable, and is certainly one of the leading influences of the time which has just passed. Of his later work I can only speak as an outsider. I enjoyed and cherished his friendship to the end, and had the privilege of seeing much of him at the Royal College of Art when he was a member of the Board of Education Council of Advice. He was always so modest, always so ready to excuse what he imagined to be the failures of his work, that one can scarcely speak freely of it. Viewing his work, as far as possible, from a detached standpoint, his marked originality of proportion, the freedom derived from his earlier Gothic enthusiasm, and his underlying love of quaintness, led him to experiments in Classic design which might be, and are, alarming, but, I think, justify themselves the more they are surrounded by the commonplace. In his larger designs he was always adventurous; he never repeated himself, and it is difficult to think of him doing so, for he was always moving freshly from one point to another. Such an artistic career is characteristic of the age. What would have been the effect upon Belcher if he had been put through the mill over which you presided with such zeal and power, Sir, at the Board of Architectural Education for so many years? If he had I cannot imagine what the result would have been. Mr. Joass may have had a different tale to tell us. What the effect would have been of putting a man through such a course who was in some doubt whether he should not turn to music, and was possessed with the artist's delight of sketching, and a marked gift for watercolour drawing, I cannot guess. He was fortunate in business life in having as an intimate friend Mr. J. W. James, who was a master of the technical and practical side of the profession; and Belcher enjoyed many a stiff scuffle in early days in law-suits in the City. But normally he did not tend that way. He would have sat for an examination if his father had wished him to, and no doubt the Board would have passed him in design. But I dread to think what the effect of a five years' course of education, such as that now prescribed by the Institute, would have been upon such a promising student. (Laughter.) We shall hope to see, during the years which remain to us, many of the younger men exhibiting similar delightful freshness and ability, and affecting the movement of their time as Belcher has undoubtedly affected the movement of his. And may we ask ourselves the question if,

after all, there is not something to be said for the old haphazard way of education? I would not call it haphazard, but for the delightful freedom with which a man of Belcher's genius was able to roam over the fields of enthusiastic study which were offered him by his pencil at home and on the Continent, by the English Gothic architects, and by the work of such leaders as he made in after life his personal friends. I again venture to comment on the very great importance that he always attached to the use of sculpture. The impressionable age of youth has much to do with the ideals from which we can never shake ourselves. The fact that from early youth he was the intimate friend of Hamo Thornycroft, saw through his problems with him and worked with him in many directions, gave him that sympathy with the sculptor's standpoint which is always manifest in his work. This leads to the remark: how wise it is to cultivate, as far as possible, among our students intimacy between those engaged in the sister arts. I am sure, looking at Belcher's work and his intimate friendship with this charming artist and man, that it issued in his delightful use of sculpture. A friendship exhibited not only in the personalities but linked together in their works. I have very much pleasure in supporting, *con amore*, this vote of thanks to Mr. Joass, with this little indication of special pleasure in that I was the means of introducing Mr. Joass to Mr. Belcher.

SIR WILLIAM PLENDER, Past President of the Institute of Chartered Accountants, in seconding the vote of thanks, said: If my words are few, I must ask the meeting to believe that it is not because they express the limitations of my appreciation and admiration for Mr. Belcher. My eyes are gladdened each day when I go to the City by evidences of his genius. I cannot tell you what period of architecture the buildings represent which he designed, but I can say that they bring happiness and pleasure to many thousands of people besides myself whose daily pursuit is in City life. The building I am most familiar with, the Institute of Chartered Accountants, is, I venture to think, a creation which has not only made Mr. Belcher famous in this generation, but for generations to come. And I am very glad indeed that Mr. Joass has pointed out to you that the Council of the Institute of Chartered Accountants have decided to finish the decoration of the Council Chamber in which Mr. Belcher was so much interested. I know that skill and great technique will carry a man far in his profession; but those qualities in themselves would not have carried Mr. Belcher to the summit of his profession without being supplemented by a great power of human sympathy. There must be, in addition to ability, however great, a love for his work to make a man permanently successful. And if I were asked to concentrate, in a few words, one thought which Mr. Belcher must have had before him in the years of his life, it would be that aphorism which originated with a great Frenchman of the

eighteenth century, that "great thoughts come from the heart."

SIR ASTON WEBB, K.C.V.O., C.B., R.A. [F.]: As an old colleague of John Belcher at the Royal Academy, I have the greatest pleasure in supporting the vote of thanks to Mr. Joass, who, as Professor Pite remarked, has performed a duty of love to himself with great skill, and as Belcher himself would have liked it done. I do not think that Belcher could have sat in this room and seen all his works put on the screen; he was so modest a man that he would have run out of the room. But now that he is not here, I think it very appropriate that we of this Institute should meet and honour him, and honour the work he did, which has certainly, in my opinion, added to the illustrious phase of architecture of the decade which has just gone. I knew Belcher personally for many years, and I knew him in rather a trying way. We were competitors on more than one occasion; and, although the profession excited themselves considerably over the results, I am bound to say that Belcher never allowed anything of that sort to interfere with our pleasant personal relations from the beginning of our acquaintance to the end. I was also—I will not say a competitor, but our names were put up together for election at the Royal Academy; and there again, when I was elected I can sincerely say my great hope was that he would be the next. I am glad to say that hope was fulfilled; and I think I can also say that this left no bitterness either. Of his own work he never talked, but would often speak of other people's. As President of this Institute I came across him a great deal. As Mr. Joass said, we persuaded him into taking the post; and excellently he filled it. It involved an enormous amount of work, for during that time we had the International Congress of Architects in London, and he won the esteem of architects of all nations who met him on that occasion. Another, and perhaps the greatest, debt that we owe to him is that it was mainly to his influence that the gap which had so long divided the profession was closed. This great thing was brought about in his own quiet, dignified way—you would not have known that he was doing anything at all—and those distinguished friends of his who had remained, to our great regret, outside the Institute came in, and we were at last able to present to the world a body of architects united in the one wish to forward the interests of our art and of the architectural profession. That is a debt that we owe to Belcher; and it is almost impossible, as far as this Institute is concerned, to exaggerate its importance. He also took a large view of things generally. He was interested in town-planning, as you will have seen by his proposals in respect to Bath. He not only thought of the building, but also of the surroundings of the building, which, really and truly, is the most important thing. We have not got the public to think that yet; but if we could get them to realise that where the building is placed is quite as important as the building itself, we should be at the beginning of what we suggest

and of what we now call town-planning. As has been said, Belcher was one of the first to introduce real sculpture into architecture in England in these later days, and it was rather a pang to me to see that his last building was architecture without sculpture. I wish sculptors would take up architecture more than they do, and feel the architecture with which their sculpture is to form part. Great advances have been made, and Belcher was at the head of them, and I hope that still more progress will be made. Personally, I would like to see—as I think Belcher would have liked to see—the names of both sculptor and architect attached to a building on which sculpture is used; it is so in France, and I think it should be so here too, so that the sculptor who works with the architect from the beginning should feel that he receives equal credit with the architect for the building which is designed. We all know the enthusiasm and interest that was aroused by the Chartered Accountants' building. All of us regret that it had not a better frontage to Moorgate Street; we wish that the Star and the other offices in front could be set back; and as we have Sir William Plender here we wish he would take the matter in hand and let us see the Chartered Accountants' building from Moorgate Street. That would be the best memorial to Belcher that could be given. I hope that in days to come we shall see sculptors and architects working together on buildings of that class. I have the greatest possible pleasure in supporting this vote of thanks to Mr. Joass for so sympathetically bringing before us the work of John Belcher.

SIR W. GOSCOMBE JOHN, R.A. [Hon. A.]: I can speak with no authority at all as to the merits of Mr. Belcher's architecture; but it has been a great delight to me, as one who knew him intimately and admired his work, to listen to Mr. Joass's Paper. There is, however, one particular thing in Mr. Belcher's work which appealed strongly to sculptors, and that is its remarkable plastic quality, which was the result of his sympathetic and plastic mind. This characteristic showed itself in such a marked degree that some of his architecture seemed to sculptors almost sculptural; so much so that when he used sculpture on his buildings it seemed to be naturally a part of his architecture, and not applied. I entirely agree with what Sir Aston Webb said about the combination of the architect and the sculptor. The sculptor who is entirely detached in his views is unfortunate, because it is always to the advantage of a sculptor to have a knowledge of architecture; but, on the other hand, I do not agree with those who say that sculpture is never worthy unless it is associated with architecture. Happily, architecture and sculpture are distinct arts, and each is able to stand on its own merits. The work of the earliest sculptors was not associated with architecture; they were men who made images, of some kind or other, to put on graves, etc. As things progressed they decorated buildings, and sculpture is never more

happy than when it is associated with architecture. I have much pleasure in supporting the vote of thanks to Mr. Joass.

MR. EDMUND GOSSE, C.B., LL.D.: I am sure no one here can have enjoyed more than I Mr. Joass's Paper, and I am inclined to think that it is I who have enjoyed it most because I am so much more ignorant than the rest of you. You knew a great part of it before, whereas all that was technical was new to me. And if I can say a word which is in the slightest degree interesting to you to hear, it must be merely of a personal kind. There is no excuse for my speaking among you, except as a personal friend of Mr. Belcher. I knew him first in 1879, through Hamo Thornycroft, that great artist and delightful man who I am sorry to find is unable through illness to be here to-day. In one of those enthusiastic discussions we held, as young people do—it was on the revival of sculpture—Thornycroft said to me: "There is one architect who has some idea of the use of sculpture in architecture." I think Belcher was at that moment away in Bavaria and Northern Italy, and that I was presented to him immediately on his return. I have a delightful reminiscence of that visit of his abroad in the shape of a most elaborate and beautiful pencil drawing which he brought back from Southern Germany and afterwards kindly gave to me. Of what has been said about his interest in sculpture, it would not be becoming for me to say much, because some of the most eminent artists in this country have already addressed you; but I well remember the long talks we had about it and the delightful eagerness with which Belcher discussed all the difficulties which he saw, and which he was sure he would be able to overcome. In particular, Mr. Joass has not mentioned, though it is probably well known to him, the scheme of drawings, which occupied Belcher at that time, of a colonnade in the City, which was to be not only a great feat of architecture, but was to employ all the young sculptors of the moment in various ways—an idea which was entirely novel at that time, I think; I speak under correction. Perhaps no architect except Belcher at that time realised the possibilities for the employment of the new revived and vivid school of sculpture which had just been started. So much has been said about his "modesty" that I would like to define that a little, because it was a singular and subtle characteristic. I daresay some of you remember that Dr. Brown, the Master of Pembroke College, Cambridge, a fortnight after the death of the poet Gray, wrote enthusiastically about his character and genius, but he could not say very much about him, because, he said, "Mr. Gray never spoke out." I think that of all the eminent men it has been my privilege to know personally, in all the arts and in all the professions, Belcher was the one who had in the most singular degree that characteristic, that he never spoke out. One had to divine, from his affectionate solicitude, from his eager interest, the

depths of character that were in him. His extraordinary loyalty to his friendships, the earnestness with which he pursued the various central interests of his life, these were indications of what was inside him. But I think no one who knew him intimately would say that he ever overcame that singular inability to "speak out." And for that very reason, in this noisy age of ours, when it is the very people who speak out the loudest who attain the widest notice and are the most welcome to the world, we feel it is so very delightful and encouraging that one so withdrawn, restrained, and reserved as Belcher was, should receive such testimony to the enthusiastic faith of his best comrades as has been given to-night by the charming Paper of Mr. Joass and by the warm reception which it has had here. So that I think that this evening is a kind of final tribute to him. It places him, perhaps for the first time, completely where he should stand, and where, I think, he always will stand, as perhaps not one of the most powerful or most forceful, but as one of the most delicate and sympathetic artists that the nineteenth century has produced. For that reason I am proud to be allowed, although I am totally unworthy to do so, to confirm what those more eminent than myself have said in commendation of Mr. Joass's delightful Paper.

SIR ERNEST GEORGE, A.R.A. [F.]: I have the sincerest admiration of Mr. Belcher's character and the happiest memories of meetings and conversations with him. His work varies very much, and it is some of the most interesting that has been produced in our time. I have enjoyed Mr. Joass's Paper immensely and thank him very much for it; it has been very interesting to hear these reminiscences of our old colleague.

DR. CHALMERS MITCHELL: I should like to add my words of thanks to those of more experienced people for the form in which Mr. Joass presented his account of Mr. Belcher's work. To those of us who are not technical experts it was an extremely clear and interesting presentation of a man's work, and it must have been very difficult to condense it for a short space of time. About Belcher, I have only one word to say. A good deal has been said about his modesty. I have had the great pleasure, partly as a client, partly as a friend, of seeing a good deal of Mr. Belcher in the later years of his life, and my impression is that there is another interpretation to be put on that modesty. His modesty was not a dislike of talking of his own work; the reason he did not talk about his own work was that he had the most adventurous mind of any person I have ever come across. The moment he finished a thing he had done with it, and he wanted a new idea to think of; you could not bring before him anything too wild, or too much outside the ordinary ways of architecture to baffle him. The more difficult a problem was, and the more unlike anything of the kind which had ever been done before, the more pleased he was; and I think his modesty was the sense that all the time to the end of his days he was living in the present and future, not in the past,

living his life for his own work. He said to me: "There are streets in London I do not like looking down," and for obvious reasons; but there was no new street, no city which he would not have been too delighted to adventure in and try to work out new and beautiful combinations.

THE PRESIDENT: Before putting the formal vote, I should like to add my personal thanks to Mr. Joass for his most interesting Paper. I had the pleasure of knowing Belcher for more than thirty years, and I can fully endorse all that has been said as to his modest and retiring disposition. Like all sensitive people, he was never indifferent to the influences and movements of his time; but no matter what method of expression he adopted, it is always easy to find a very definite individuality in his work. Mr. Joass has omitted to mention that in 1900, I think it was, Mr. Belcher was elected an Associate of the Royal Academy, and, in 1909, a full member. This honour, I know from Belcher himself, he valued very highly

indeed, and it is gratifying to learn, on the authority of Mr. Joass's Academy student, that his election did not destroy Mr. Belcher's powers as a draughtsman!

The vote was then put and carried by acclamation.

MR. JOASS: I have really nothing to say in reply to the kind remarks of Professor Beresford Pite, Sir William Plender, and the other eminent gentlemen who have spoken, except to thank them all for the very kind reception which has been accorded to this Paper. Professor Pite's reminiscences of Mr. Belcher's early days and struggles were most interesting and illuminating; also Sir Aston Webb's references to his influence in healing the breach between the members and the strong group of architects who were not altogether in sympathy with the Institute's methods at the time. With regard to the President's statement about Mr. Belcher's election to the Royal Academy, that and other material will be found in the printed Paper; I thought it would be tedious to rehearse it all to-night.

CORRESPONDENCE.

The Hellenistic Temple of Artemis at Ephesus.

To the Editor, JOURNAL R.I.B.A.,

DEAR SIR,—In the JOURNAL for the 13th June last Mr. Theodore Fyfe illustrates an elevation and a plan of the Hellenistic temple of Artemis at Ephesus, as restored by Professor Lethaby, which vary considerably from certain of Professor Lethaby's assertions.* Will you be good enough to afford me space for a plan and restoration of the Hellenistic temple and a few comments?

This plan fits the remaining foundations and also the portions of the superstructure removed by Wood. It was found during the excavations conducted by the British Museum in 1904-5 that this last structure was reared directly upon and over that of the Archaic † wall for wall and column for column, the great difference being that its floor was raised upon a large terrace 7 feet 3 inches high, surrounded by a stepped stylobate. The length at the edge of the lowest step was at least 417 feet 6 inches,‡ and the width 239 feet 4½ inches.

The peristyle was practically the same size as that of the Archaic and was 2 feet 3½ inches above the terrace, making a total height from the surrounding pavement of 9 feet 5½ inches at the base of the outer range of columns, and 9 feet 6½ inches at the inner. It will thus be seen that there was a rise inwards of an inch in that distance. The edge of the peristyle pavement was 2 feet beyond the plinth of the columns; this last dimension was measured by Wood § while the base now in the British Museum was in place.

* *Architectural Association Journal*, March 1914. *The Journal of Hellenic Studies*, 16th June 1914.

† *British Museum Excavations at Ephesus, 1904-5*. JOURNAL R.I.B.A., Third Series, Vol. XVI., No. 3, 1908.

‡ The foundations, &c., have been removed at the west end; it is therefore somewhat uncertain how broad the platform was at this end.

§ J. T. Wood, *TRANSACTIONS R.I.B.A.*, 1883-4.

The number and spacing of the columns shown on the plan of the Archaic temple published in the JOURNAL || and repeated in the plan of the Hellenistic temple, agree with the statement of Pliny (V.H. xxxvi., 14) as usually interpreted, namely, that there were 127 columns in all, of which 36 were sculptured. By indications on the site there can be no doubt that 96 columns surrounded the peristyle, four were in antis and six in the pronaos, which latter did not contain a cross wall as shown by Wood and Lethaby. The two columns shown in the porticum and the nineteen in the cella are not proved by indications on the site.

Professor Lethaby accounts for only 100 columns on his plan, but by his descriptions he should surely have added a central column to the east front, with two more behind. He states in the two Journals already noted that "there *must* have been an extra column at the back of the temple," and he writes: "... in regard to the great epistyle over the enormous central bearing ¶ there could not have been more than one such beam in the temple ... that would have been an anti-climax."

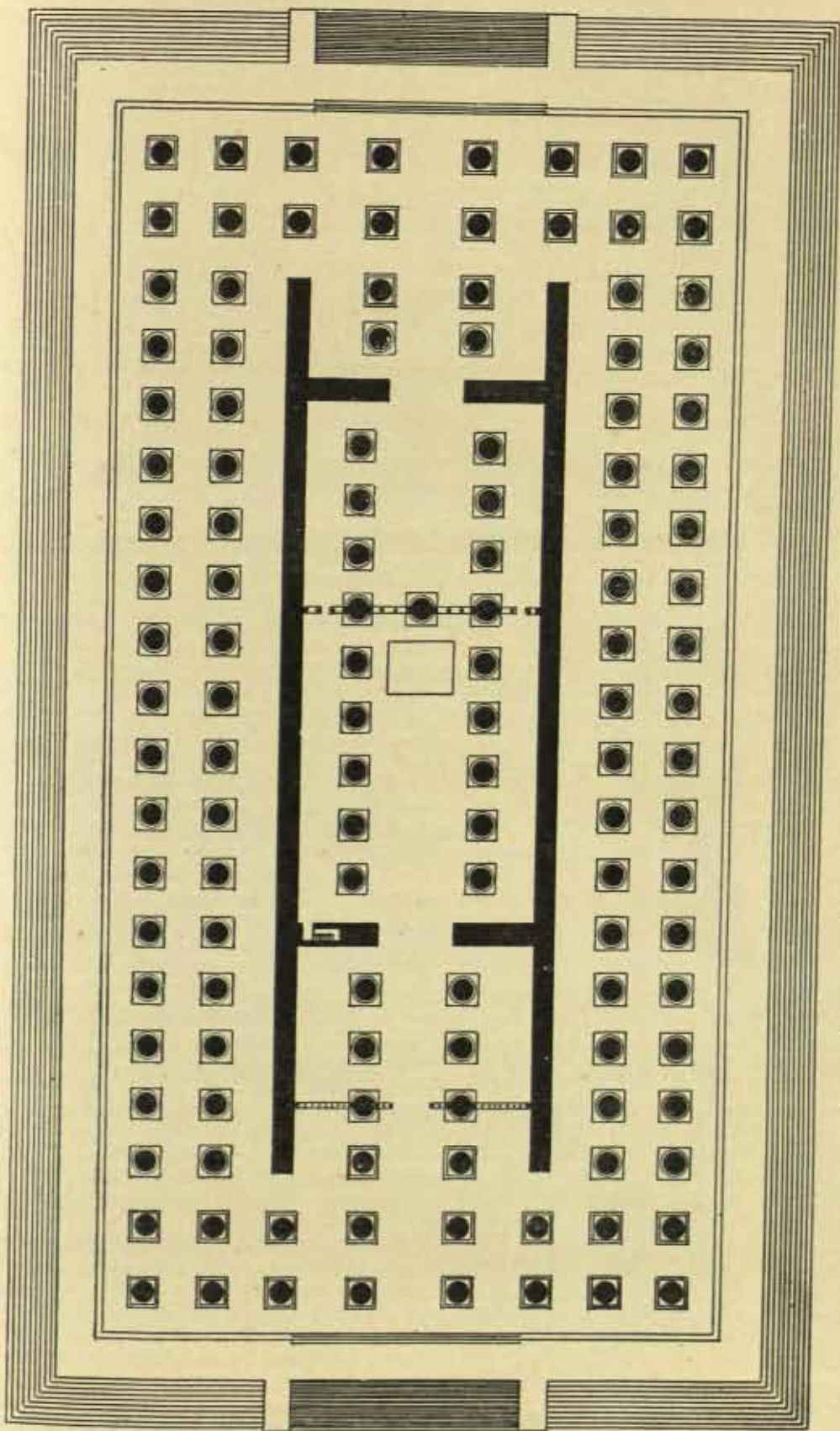
He further quotes the enneastyle portico at the rear of the temple of Hera, at Samos, as an example of this expedient. That temple was, however, orientated in the ordinary method and seems to have had no opening into the interior from the west. Surely, however, it cannot be used as a standard with which to compare the great Artemision, which besides having a magnificent eastern elevation ** had another of even more importance facing westwards towards the bay of Ephesus.

If it is to the Hellenistic temple that he gives this building expedient he must have quite overlooked the

|| JOURNAL R.I.B.A., Third Series, Vol. XVI., No. 3, 1908.

¶ He evidently means opening, the centre to centre of columns was 28 feet 1½ inches.

** Wood found the remains of a sculptured drum at this end.



Scale 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 METRES
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 FEET

THE TEMPLE OF ARTEMIS (DIANA) AT EPHESUS, RESTORED PLAN OF THE HELLENISTIC (IVTH CENTURY) STRUCTURE BY ARTHUR E. HENDERSON, F.S.A.

fact that the Archaic had exactly the same spacing of columns and also a marble entablature. He would therefore imply that the great builders of the third century B.C. were not able, except in one case, to procure a block of marble a little less than 30 feet long, and this in spite of the fact that a century or two later marble quarries were turning out 40 feet monoliths for the Romans.

I trust Professor Lethaby will now renounce the ninth column, which he unfortunately has not represented on paper, for this would mean that while there was at the west end wide spacing in the middle, there would be at the east end very close spacing in the middle, and fairly open at the sides.

Another point on which I wish to comment is his placing behind the massive square pedestals carved in high relief, as bases to the front row of columns, the delicately sculptured drums as bases for the second row. One at least of these—the Hermes Group—he considers "may claim to be the most beautiful relief in the world, excepting the frieze of the Parthenon. . . . It is perfect both in composition and in handwork." It is hardly conceivable, therefore, that these sculptures would be given a secondary position by being placed at practically floor level and hidden at a little distance by the great pedestals.

Dr. Murray* conclusively settled their position by discovering a circular line struck on the top surface of one of the square pedestals, which exactly fitted the base of the Hermes Group. He therefore placed the sculptured drums upon the pedestals, and the effect as seen at the British Museum is grand in the extreme, and completely justifies Dr. Murray.

It is probable that the pedestals were only used to decorate the front columns; those behind had the lowest drums sculptured in fairly high relief, one such being preserved in the British Museum.

The height of the columns was 60 Greek feet, and according to Fergusson's calculation would be 60 feet 9½ inches English, but Professor Lethaby figures their height as 55 feet 8½ inches, a figure at which he must arrive by some other method of calculation. As to the entablature, it followed in the main that of the earlier Archaic temple, but was of more ornate design in the Ionian friezeless style. The architrave with triple fascia, the large egg-and-tongue bedmould, and the sculptured high cymatium are all certainties. The remaining portions unfortunately remain conjectural, so it is to the later temples of Athene at Priene and of Apollo near Miletus that we must turn. These temples have large dentils and a corona with a sculptured bedmould, so that in my restoration I have followed the Miletus example.

Unfortunately no portion of the structure above the entablature (excepting quantities of fragments of terracotta roofing tiles) has been found, so that it is not possible directly to refute Professor Lethaby's poor opinion of the capabilities of the temple builders when

he suggests that if sculpture were placed in the tympana of the pediments it would, by its excessive weight, endanger the structure. It is certain that the Archaic temple had a sloping roof, since many fragments of terra-cotta roofing tiles, of finer character than those of the Hellenistic, were found in the pockets between the foundation piers of the Hellenistic terrace, but whether or no it had a pediment at each end is uncertain; if it had not, as I am inclined to think, it would then have had a hipped roof, but extending over how much of the area must still be wrapped in doubt. However, all representations of the Hellenistic temple show a pediment, and surely it is inconceivable that the designer of this great temple of Artemis at Ephesus could by deliberate intention withhold a representation of the great Asiatic goddess from the place of honour in the tympanum.

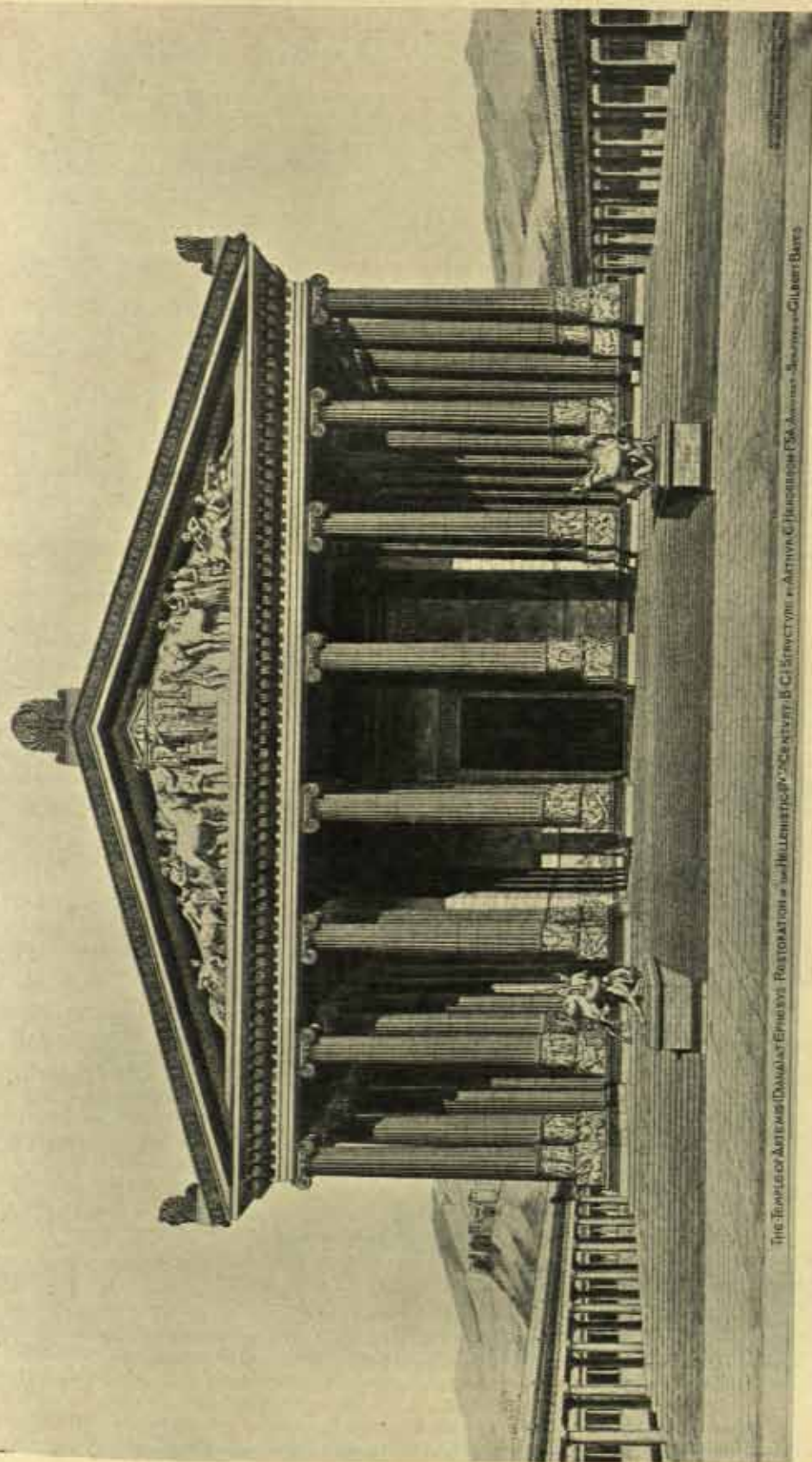
In the restoration presented I have indicated an appropriate subject (but this and the other sculptural adornments, for the skilful drawing of which I am indebted to Mr. Gilbert Bayes, must be only taken in the way of suggestions)—Artemis mothering her devotees, who are bringing gifts from Asia and Europe; they are conducted by the Messenger. I would suggest that the sculptured acroterium represented the usual Asiatic "goddess with the lions," and there may have been two low pedestals on the steps at the west end, as at the temple of Apollo, upon which also Asiatic subjects are suggested, namely, combats between an Amazon and a Greek, and a Greek and a Persian.

I should like to point out that the masons of both the Archaic and Hellenistic temples did not rotate the drums of the columns one upon another, as is suggested was done by the Greeks to procure perfectly flat bearing surfaces. The upper and lower surfaces of the drums did not show circular scratchings, but good even tooling and traces of red colour were found on the Archaic drums, which distinctly showed that the masons marked the surfaces flat and ready for fixing.

The rotating of one drum upon another is ingenious in theory, but would not work in practice. Two uneven surfaces, no matter how long they are rubbed together, will never procure flat surfaces, but only an unlimited amount of abrasion. Besides, the mason would be unable to set out the exact sizes of the drums for each column, but would only be able to work drum by drum as they were fixed. Moreover, the weight and torsion of a rotating drum upon that below when two projections near the edge came together, would cause fracture, and probably fragments would flake off and ruin the work.

It is remarkable that in spite of the many rebuildings, alterations, final destruction, removal of marble and burning for lime, so much has been preserved for our study and delight. The Trustees of the British Museum should be thanked for the great pains and expense they have gone to in letting us see and know so much. Lately two large fragments have been added to one of the Archaic capitals, and it would be interesting to have the moulds of the corona and bedmould of

* JOURNAL R.I.B.A., Third Series, Vol. III., No. 2, 21st November 1895.



THE TEMPLE OF ARTEMIS (Diana) AT EPHESUS. RESTORATION BY THE Hellenistic Society. Architectural Drawing by Gilbert Bayes.

In this restoration of the Hellenistic Temple of Artemis (Diana), at Ephesus (IVth Century B.C.), I have attempted to piece together the many extant fragments by the help of some of the measurements taken by Wood (1870), supplemented by those taken by me during the British Expedition, conducted by Mr. D. G. Hogarth (1904-5). I can claim that the disposition of parts would 'key' with and fit upon the remains as discovered in 1904-5. The distance between the outer face of the lowest step from North to South is 220 feet 4 inches, and the height given to the columns is that calculated by Persson, namely 80 Greek feet = 80 feet 9 inches in English. This structure followed upon the lines of the previous one (see the British Museum *Excavations at Ephesus*, and *The Builder*, November 31st, 1906), excepting that it was built in the style of the 4th century and was much more magnificent. It was raised upon a terrace, with the order increased in height, and was also enriched with much additional architectural carving and magnificent sculpture. The sculpture shown on the columns follows the lines adopted by Dr. Murray; the enriched base-mouldings and arrangement of the podium follow that of the Temple of Apollo at Didymae, near Miletus, which was erected subsequently to the Artemision. The entablature is rendered in the Ionian style, with the high cymadium and no frieze. Large square consoles (or dentils) are introduced to act as cantilevers to support a projecting corona with the cymadium above, though there is no direct evidence for their introduction. In the Archaic Temple, evidence is against their introduction unless the corona overstepped to a great extent of the Temple of Athens at Prisme, not many miles away, has been made by Dr. Wiegand, and as this Temple was erected shortly after that at Ephesus, it was probably a reduced rendering, but I have given the shape and design of the consoles after those of the Temple of Apollo. The ends of the pediment is that chosen by Dr. Murray, and the sculpture I suggest in the tympanum represents Artemis mothering her devotees, who, conducted by the Meander, are bringing their offerings to her. The 'Goddess with the Lions' is shown on the acroterium at the apex of the pediment, as was done in the restoration of the Archaic Temple, and the well-known type of the Ephesian Goddess is used for the cult statue. Bees, representing the priestesses, are introduced into the decoration of the frieze running round the walls. My idea to are due to Mr. Gilbert Bayes for his beautiful rendering of the figure sculpture.—ARTHUR E. HARRISON.

Mr. Henderson has presented this drawing and his restoration of the Archaic Temple to the Institute, and they will be found hung on the staircase by the entrance to the Galleries.—Ed.]

the cornice placed beneath the Archaic cymatium already in the Gallery. Also a few more fragments brought up from the basement would be of great advantage.—Yours faithfully,

ARTHUR E. HENDERSON, F.S.A., *Licentiate*.

Bell Frames.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—Will you permit me to make a few remarks on the review of Sir Arthur Heywood's book on Bell-Towers and Bell-Hanging which appeared recently in the JOURNAL?

The admission, coming from so eminent a reviewer, that a mathematical demonstration of the nature of the forces exerted by bells on a church tower is of value to the architect shows that the "Appeal to Architects" has not been in vain. Lord Grimthorpe unfortunately did not go so deeply into the mathematics of bell-hanging as he did in the case of clocks. The fact that the maximum horizontal forces set up by two bells swinging in the same plane and roped on opposite sides exactly add together when the bells are rung in sequence is not obvious without the solution of an integral equation. And it certainly does not seem to have occurred to many architects, judging by the very great number of bell frames, both ancient and modern, which they have sanctioned, and in which the two heaviest bells are so arranged. And generally they are placed against a wall at the greatest possible distance from the centre of gravity of the tower.

In the matter of metal frames the reviewer has fallen into the same error as the early makers of those frames, in assuming that "obviously the most rigid construction consists of girders of sufficient strength to support the two gudgeons of the bell." In such a frame horizontal rigidity is impossible, because the room for the necessary diagonal bracing of the girders is taken up by the swinging bells. If the bells swing parallel to the girders the force of each bell is transmitted direct to the tower by the two girders on which it hangs, instead of being shared by all the girders as in a truly rigid frame. And if the bells swing across the main girders the latter are deflected sideways. In one such frame, not far from Shipton-under-Wychwood, the ringers of the two largest bells had to supply an extra 40 foot-pounds of energy with every pull on their ropes, which was absorbed in bending the girders. In consequence the frame very soon suffered the same fate as most of the much-lamented timber frames and was "wedged" to the tower. Of the same tower the story is told that one of the ringers after practice had to request his colleagues to raise the bells again in order to free his coat from a crack in the tower wall. Modern frames are raised above the girders in order to allow for the proper bracing of the girders to ensure complete rigidity in all three dimensions.

Even those who plead for "top-staying" are agreed that top stays should only be used in the case of a rigid frame. But an analysis of replies from most of

the leading bellhangers to a recent enquiry of the Central Council of Ringers shows that the majority of old timber frames examined by them are "wedged" to the tower at the top. Timber frames may reach a venerable old age, but quite early in life they have to call in the aid of metal to strengthen their weak knees, if the bells are to be regularly rung, and in their old age most of them become "top stayed" frames. So that the lovers of old timber frames are unconscious advocates of "top-staying" in its most pernicious form.—Yours faithfully,

EDWIN H. LEWIS.

AN AMERICAN ARCHITECT ON THE WAR.

MEMBERS who were fortunate enough to hear the Paper on "Recent University Architecture in the United States," read at the Institute in May 1912 by Mr. Ralph Adams Cram, the eminent American architect, will recall the interest of the occasion—the author's winning personality, his fine enthusiasm, his scholarly diction, the literary charm of his Paper and the admirable manner of its delivery. Mr. Cram is wholly American, coming of a good old New England stock which settled at Longwood, Brookline, nearly three centuries ago. His name, associated with Goodhue and Ferguson, is as familiar in art circles here and on the Continent as it is in his own country. He has an extensive practice, and is responsible with his partners for some of the best-known buildings in the States. Mr. Cram has also won distinction in the world of letters by his well-known books, *Excalibur*, *The Gothic Quest*, *Impressions of Japanese Architecture and the Allied Arts*, *The Ministry of Art*, etc. Princeton University, of whose fine buildings he is supervising architect, has conferred upon him the honorary degree of Litt.D.; he is Senior Professor of Architecture at the Massachusetts Institute of Technology, and Hon. Corresponding Member of the R.I.B.A. These details are mentioned for the information of those who do not know Mr. Cram, for they lend weight to the views he holds on the extraordinary conflict in which the European nations are engaged. An address delivered early last October by Mr. Cram to the Victorian Club, which is recognised as the official representative in Boston of the English people, has been published in pamphlet form under the title, *The Significance of the Great War*, and a copy has reached the Institute. Our one thought is the War; however strictly specialised the journal, the War cannot be kept out of it. No excuse, therefore, is offered for the intrusion here of matter which in normal times would be excluded. It is thought, too, that members will be glad to have recorded in their JOURNAL the views of a distinguished brother architect, an honorary member of their own body, especially when he happens to be the subject of a neutral nation. Mr. Cram expresses himself fearlessly, and his sentiments we like to think are shared by large numbers of his country-

men. On the title-page of his pamphlet he quotes the prophetic words of Heinrich Heine, who died sixty years ago:—

"Christianity—and this is its highest merit—has in some degree softened, but it could not destroy, the brutal German joy of battle. When once the taming talisman, the Cross, breaks in two, the savagery of the old fighters, the senseless Berserker fury of which the Northern poets sing and say so much, will gush up anew. That talisman is decayed, and the day will come when it will pitilessly collapse. Then the old atone gods will rise from the silent ruins, and rub the dust of a thousand years from their eyes. Thor, with his giant's hammer, will at last spring up and shatter to bits the Gothic cathedrals."

Addressing the Victorian Club, Mr. Cram said:—

"When the last accounts are made up of this War of Wars, and high honour is measured out as well as eternal dishonour, there will be enough of each for every nation to receive its due share, but to two nations will be accorded honour in a very singular degree, and you, gentlemen, will justify me in naming Belgium first and Great Britain second. . . .

"Behind lies something that has made this war unique, something that differentiates it from all other wars, so that even those nations not as yet involved are in eager sympathy with the Allies.

"Why is it that in one week universal peace has given place to universal war, where old alliances are broken, old animosities buried, old prejudices forgotten, and a world rallies to arms against two empires? Belgium did not stand for a technicality when she defied the hordes of the War Lord who was to be to her Attila in all his savagery; France did not rush to arms to regain her lost provinces; Russia is not fighting for Slav supremacy; England did not rise to defend her colonial markets, nor is it fear of loss of trade that is fast rousing the rest of the world to a point that will soon brook no further control. If these considerations have played a part, as they may, in the councils of Governments, they are negligible features in the great uprising that has spread in the West, from Belgium through France and Great Britain, and is finding its echoes in distant Empires and in the islands of the sea.

"Suddenly, and like a nightmare transformation, a veil fell, and all the world knew it faced—an economic peril indeed—but also an evil and an awful thing that meant the downfall of such civilisation as we have retained.

"For very long we have lived in a 'fool's paradise.' Our inconceivable discoveries and triumphs in natural science, the astounding industrial and mechanical devices that have made the last century and this a wonder in history, our unprecedented increase in visible wealth and in luxury of living, with a brilliant and plausible philosophy universally accepted and justifying it all, have had issue in that Gospel of Efficiency linked to a cancerous and ingrowing self-sufficiency that has blinded the world to the actual conditions that exist. And all the while and in all nations religion was either ignored or savagely assailed, education was ruthlessly secularised and severed from all ethical considerations, and morality was cast out of business and political relations to such a degree that men eagerly engaged in conduct from which a Parisian Apache or a dweller in Whitechapel would turn with disgust as beneath his elementary standards of personal honour.

"It was a 'fool's paradise,' and as we believed in our unchallenged supremacy, so we denied that any power in heaven or on earth could shake it by war or revolution. Socialism, threatening reform in methods, but based on an identical glorification of purely material things, asserted

that the proletariat, at last come into its own, would veto any action towards war; finance, with its network of tentacles ramifying through Europe and America and exerting a control it piously denied over Governments and over the very question of peace and war, gave assurance that without its consent war would never happen again; while millionaires and pacifists, building Peace Palaces and organising Peace Foundations and Peace Congresses, roundly declared that the end of war was at hand.

"And all the while our widespread charity and philanthropy and our popular mania for social service gave colour to the smug pretensions of evolutionary philosophy that, in accordance with the 'laws' of the survival of the fittest, and progressive evolution, and the ascent of man, the world had now reached a point in its progress so immeasurably above anything recorded in past history that those same barbarous acts that were not inconsistent with mediævalism or antiquity were no longer possible.

"It was inevitable that all this, for our blind and ignorant folly, should somewhere find its culmination. You cannot initiate or acquiesce in a definite course of development, giving it free rein, without this result. Nor were we without sufficient evidence where this was taking place; the sequence, Treitschke, Nietzsche, von Bernhardi, combined with the military cabal that has been supreme for a generation, could only have issue in that Pan-Germanism that has just thrown off its mask in these latter days. When the Kaiser dismissed von Bismarck the act indicated one of two things; either that he proposed to reverse the historic policy of 'Blood and Iron,' establishing for his country and for Europe a lasting peace, or that he had determined on a course of procedure towards ultimate Teutonic supremacy to which even the unscrupulous Chancellor would not submit. Was there any man then who believed the first alternative was the correct one? Is there any man here to-night who believes that for a moment the Kaiser contemplated this pacific course, even in spite of the long years of peace he imposed on Europe while the blow was being prepared?

"No. If we had eyes to see, eyes not purblind with self-conceit, we should have known a generation ago that the culmination of our consistent course for four centuries would take place in Prussia, and that when the proper moment came that power would strike for European dominion and then for world control. The moment came, and never in history was there a time when so many things occurred simultaneously to lead to a certain course. The Kiel Canal, which at a stroke doubled the offensive power of the German navy, was opened; the reorganisation of the Russian army, begun after the Japanese war, was not yet completed; the French army had been declared in the Chamber of Deputies to be in a most ineffective condition, and this allegation was admitted by the Ministry of War itself; England was supposed to be on the very brink of civil war, while the Balkan Alliance, engineered in the beginning by Germany to pull its chestnuts from the Moslem fire, but out of hand in the end, to the dismay of Teuton diplomacy, had been destroyed by the second Balkan War, which was Germany's masterly counter-check to developments she had little anticipated.

"On the other hand Germany was fully prepared, as she had been at any time during the past ten years. Austria was as ready as could ever be hoped, while whatever was to be done must be done before the death of Franz Joseph. Italy was securely bound to the Triple Alliance, Belgium did not count anyway, and the United States had its hands full in Mexico. If ever, the stroke must come now, and

from the standpoint of the controlling influence in Teutonic councils, the murder of the Archduke of Austria and his wife was the most providential thing that could have happened.

"The plan was a knife in the back for France by means of a violation of Belgian neutrality and a dash through its territories, the capture of Paris, the driving of the French armies south where Italy could take them in the rear, then a quick change of front to crush Russia, held in temporary check by Austria, who also was to silence and intimidate the Balkans.

"What lay behind this? Nothing less than the effective control of Europe through the annexing of Belgium and Holland, Russian Poland, the Baltic Provinces and possibly Denmark. With the death of Franz Joseph Austria-Hungary was to be assimilated, while the Balkans were to be seized and an outlet to the Aegean obtained and also a through line to the Persian Gulf. Such French colonies were to be taken over as were useful, and British colonies also, if Great Britain came into the war, or shortly thereafter if she did not. In a word the end aimed at was the crushing of the British Empire and France and the driving of Russia back into Asia.

"It was a dream of empire such as appeals to the parvenu, to Alexander, Caesar, Napoleon, Prussia: for Prussia is essentially parvenu, with no ancient history, no cultural tradition comparable with those of the nations that surround her and, in the south, extend the German Empire and make up that of Austria-Hungary; and the heart of this Satanic dream was material supremacy founded on force and the denial of abstract right and wrong.

"And here let me emphasise one point. In trying to bring home to one agency the cause of a damnable war, I try always to say Prussia rather than Germany. . . . The common enemy is not the kindly, pious, industrious German; it is the militar-philosophical Prussian, concentrated in the cabal at Berlin, with its lieutenant in Vienna, that has been fostered by Kaiser Wilhelm, if not created by him.

"Now, when the veil fell, there came on all nations a great fear, not alone for their lives and their trade and their wealth, but more than all because they saw that the whole world was threatened with the reign of Antichrist and the armies now assembling for Armageddon. On the one side were all the powers of a godless materialism, on the other all those forces that were ready to rise up in defence of Christian society.

"And the skirts of no nation were clean; what they saw they themselves had helped to build. In so far as England and France and Italy and America had forgotten honesty in their business dealings, had abandoned high ideals in developing their finance, manufacture and trade, had perjured themselves through cynical diplomacy, had degraded education to an empty intellectualism, and built hospitals and libraries and churches to hide their denial of Christianity and honour and decent morals, they had been guilty, and in equal measure, with Austria and Prussia. In a flash of revealing light they saw the pit they had digged and they turned—some of them—from their blind stumbling, and rose up, heroically and unselfishly, to do battle against the common enemy, even at the eleventh hour.

"I am far from denying that material considerations have entered in to play their part in determining action. Undoubtedly so far as the Governments of Russia and France and Great Britain are concerned they did do so, as they should, though I doubt if these alone would have been sufficient. . . .

"In any case, no question of ports or trade was the suffi-

cient cause for the universal uprising in every quarter of the globe on the part of the people themselves, that astonishing phenomenon so like the earliest Crusades. Nothing less than what may well be a divine revelation to all tongues and all peoples of the real significance of the War can explain this great rising of men for united battle against an enemy whose nature is clearly perceived. . . .

"We must be grateful in a sense that the methods of warfare thus far pursued by the new Attila and his Huns are consonant with their cause, since they remove the last lingering doubt. We are warned not to believe the stories of Prussian atrocities, but there is no denial that Germany tried to bribe Belgium and England and Spain with the prospective plunder of their allies and defenders; there is no denial—there is frank avowal—that Germany broke her solemn treaty with a little State, calling it 'only a scrap of paper,' in order that she might garrotte another nation who had left herself comparatively defenceless along these neutral frontiers, confiding in their neutrality; there is no denial that Germany solemnly reassured Belgium even while the armies were in motion that were to violate her frontiers; there is no denial that German airships are dropping death and mutilation on the old men, women, and children in cities far from the firing line; there is no denial that for one shot from a non-combatant in an occupied town, driven mad by insult and outrage, hundreds of innocent citizens are lined up against walls and killed in cold blood; there is no denial that whole cities are looted and burned in revenge, and that the Catholic University of Louvain was given to the flames with all its treasures, or that Rheims, the wonder of the world, with Red Cross flags on its towers, and its nave full of wounded Germans and French nurses, was shelled for days and reduced to a hopeless and pitiful ruin."

Mr. Cram conjures up a vision of the new Europe after the War, and concludes:

"Gentlemen, the year 1914 is the most fatal year since the fall of Rome. Civilisation is being sifted as wheat, and into the chaff is going much that we have been taught to look on as precious grain. The world is offered the Great Choice; what is to be its answer? If we choose as Prussia has chosen, and Austria, then this civilisation is at an end, and before us looms a new epoch of Dark Ages. If, on the other hand, we choose as Belgium has chosen and Great Britain and Russia and France, then we achieve a new salvation, and before us opens an era of true enlightenment and of Christian living. Is there any doubt as to what the choice will be?

"Gentlemen, it is hard to be neutral even if one's President under earlier and quite different conditions solemnly asked for such neutrality. In my own mind there is a lingering suspicion that I myself have not wholly succeeded in preserving this judicial attitude. Gentlemen, I do not care! There is more at stake than the formalities of a stereotyped diplomacy; your battle is our battle, and at last we are coming to realise the fact. I would avoid overt violation of the laws of neutrality, but this I will say.

"We want peace; peace with honour and justice, and peace that shall be a fact, not a phrase, and we want it as soon as possible, in order that this ghastly slaughter, this carnival of sacrilege and spoliation, may come to an end before it is too late and international bankruptcy completes the work of international catastrophe. Unless we can patiently look forward to a war of years, with endless disappointments and reverses in its course and with red ruin at the end, the world must unite against the common

enemy. I wish from the bottom of my heart that the United States would say to Italy and Spain, "We ask you, on a certain date, to unite with us in a declaration of war, jointly and severally, against the Empires of Germany and Austria-Hungary, in order that the war may be brought to an end and peace restored on a basis of stability and permanence."

"And I will say this further. If this is not done, and, which God forbid, the fortunes of war turn against the Allies, we, alone or in concert with all Europe, shall be forced to join unhesitatingly with you in defence of our common heritage."

"God save King George and his Allies; give to their military and naval forces the final victory, and to the world an enduring peace!"

VIOLET-LE-DUC AT THE FRONT IN 1870.

[From M. Paul Gout's "Viollet-le-Duc, sa Vie, son Œuvre, sa Doctrine," Edouard Champion, Paris, 1914.]

IN July, 1870, Viollet-le-Duc was engaged in geological studies in the Alps. On the 11th of the month he narrowly escaped death in a climbing accident. Next day three young Germans, just arrived from Saas, informed Viollet-le-Duc that war had been declared between France and Prussia, and that they would return to Frankfort. This news made a deeper impression on Viollet-le-Duc than his accident. He hastened his return to Paris. At the time of the investment of the capital, the disorganisation was such that there were even no corps of Engineers. Recourse was had to the formation of an auxiliary body composed of volunteers whose professions rendered them apt for this service. Many architects performed the duties of officers or petty officers, and Viollet-le-Duc was charged, under the rank of lieutenant-colonel, with the command of bodies that rendered the most important services to the defence. He followed all the operations with a clearness of view worthy of a true soldier. He fulfilled faithfully his duty and gave freely his personal services in the combats under the walls of Paris. From November to January his regiment did not quit the advanced posts, camping in the ruined villages. During this time he rarely slept in a bed, and laboured without respite when he was not under fire or occupied in supervising the making of entrenchments.

He displayed extraordinary devotion and ardour, and had it depended on him the capital would never have been surrendered. "Demolish Notre-Dame, but let the enemy be vanquished," he cried one day when Paris was bombarded. In the mouth of one who had consecrated part of his life and his talent to the restoration of the Cathedral, these words showed the extent of the sacrifices his patriotism would have offered. He would have preferred anything to capitulation. Regarding the defence of a fortress, he had taken for maxim the words of Montluc, "Desire a hundred thousand times rather death, if all other means fail, than utter the wretched words: I surrender."

Viollet-le-Duc was never seen with a sword at his side. His arms were the compass and the pencil, as the spade and pick were those of his sappers. And yet no person was more a soldier in the highest sense of the word than he. An eye-witness wrote: "One day, he went with some artillery officers to reconnoitre a position before the cemetery of Bondy. They followed the covered way, but, instead of

sheltering themselves, marched on the talus, five hundred paces from the enemy's sentries, who did not fire, no doubt under orders. But they might do so at any moment, and could not fail to hit at so short a range. 'Messieurs,' said Viollet-le-Duc, 'I beg you, let us have the courage to file off.' He leaped over the ditch, and the others descended without parley. Viollet-le-Duc could speak thus; he had proved himself. On the evening of Champigny, not being able to draw exact information of the exact position of the enemy from those who should have had it to give, he had been seen to make, in the streets full of dead, where one dared not walk upright, a reconnaissance by night, in company with four or five volunteers whom he had persuaded to assist him."

M. Massillon-Rouvet gives us another example of his courage on the second day of Champigny, the most deadly of the campaign:

"In the trenches, Viollet-le-Duc is in the front rank, in the hail of bullets and shells; nobody is more closely occupied with his duties. The artillery breastworks are thrown up with astonishing promptitude under this rain of metal. The shells burst, sometimes in the air, at times on the ground; the French artillery reply shot for shot. Between La Fourche and the trenches, the scene of carnage was horrible; wagons exploding, horses killed or rearing, horsemen dismounted, shells bursting in the midst of battalions and making great gaps; a deafening noise. The fusillade was well sustained, but it was nothing to the artillery fire. Besides the field pieces, the guns of the forts and redoubts were constantly hurling over our heads their shells at the Prussians. I saw that day the odious and never-to-be-forgotten spectacle of unfortunate horses, with but one leg broken, and still harnessed, struggling madly against starving soldiers who were cutting strips of flesh from the poor beasts while still alive, till they were hardly more than gasping skeletons. Here too were the wounded, screaming and writhing in their agony. It was not far away, in the front rank, that Viollet-le-Duc, with his back to a burned house, made the sketch for the water-colour entitled, 'Second Day of Champigny—Attack on the Village.' On the morning of the 3rd December, sheltered by a thick fog, the retreat was ordered. Viollet-le-Duc's face showed clearly the disappointment this decision caused him. But he obeyed the order and started on the march, his claw-headed stick under his arm. One of our companies, with the captain at its head, was coming back, having left its spades and picks in the trenches. Did they believe that this was really a retreat, and that they would have time to recover their tools? I do not know. We were already almost at the bridge of Joinville. In proportion as we left the plain, the Prussians, surprised at this abandonment, advanced and followed us at a distance of five hundred yards. Viollet-le-Duc learning of the strange forgetfulness of this company, asked the captain why the tools were left in the trenches. What the reply was I do not know, but Viollet-le-Duc said to the captain: 'Since you have left your implements, you must go and fetch them.' Then, without troubling himself further about this company, he continued his own retreat and led his sappers back to the camp. Then a strange thing was seen: a whole company, five hundred armed men, officers leading, left the rest of the column, retraced their steps in front of the Prussian Uhlans, who, astonished at this audacity, parted to let them pass. The company collected without disorder the forgotten tools, and returned calmly to its place at the camp. The enemy made way for the passage of these brave men: I think they even applauded them."

THE DESIGN PAPER IN THE FINAL.

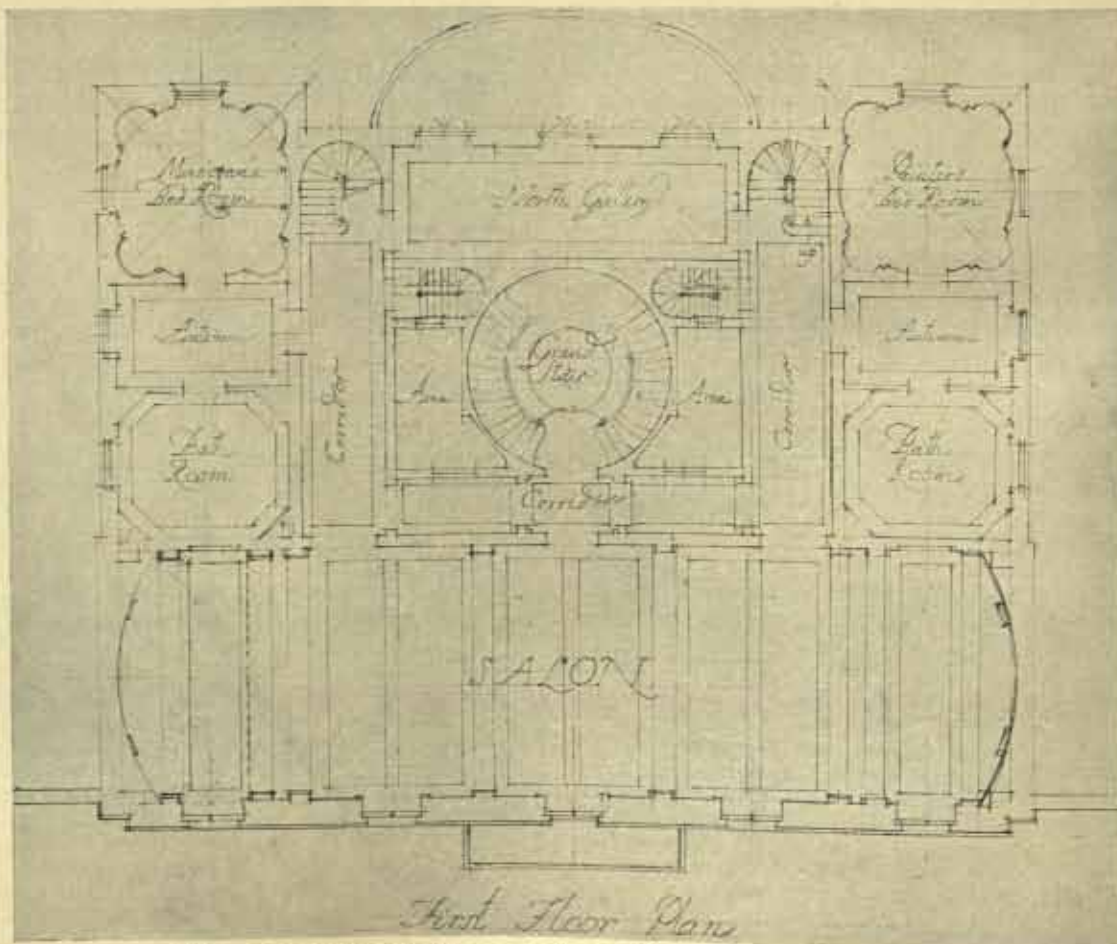
THE examination recently held in this important branch of architecture produced such interesting results that the Examiners petitioned for the best design to be illustrated in the JOURNAL. Not only is the standard of work higher than has been the case in former years, but all the candidates availed themselves of the privilege to make preliminary designs on tracing paper, thereby gaining increased fluency for their finished work. Mr. Patrick Abercrombie, of the Liverpool School of Architecture, presented his version of the subject ("A Town Residence for Two Artists") in a manner showing scholarship and regard for the conditions of modern domestic architecture for towns; and if reference is made to the accompanying illustrations it will be seen how closely formal planning and utilitarian needs are allied. In this design there is apparent something of the spirit which animated the work of the French designers of the early nineteenth century, a delightful and imaginative freedom in the handling of the interior arrangements which is reminiscent of the famous examples in the new suburbs of Paris and of the works set forth in Krafft's publications. Yet the whole scheme cannot be traced to a particular motif. It is a blend of the French spirit of the period with the English tradition. The

Examiners also cannot praise too highly the spirit of adaptation displayed in this design, which shows the value of French influence in planning.

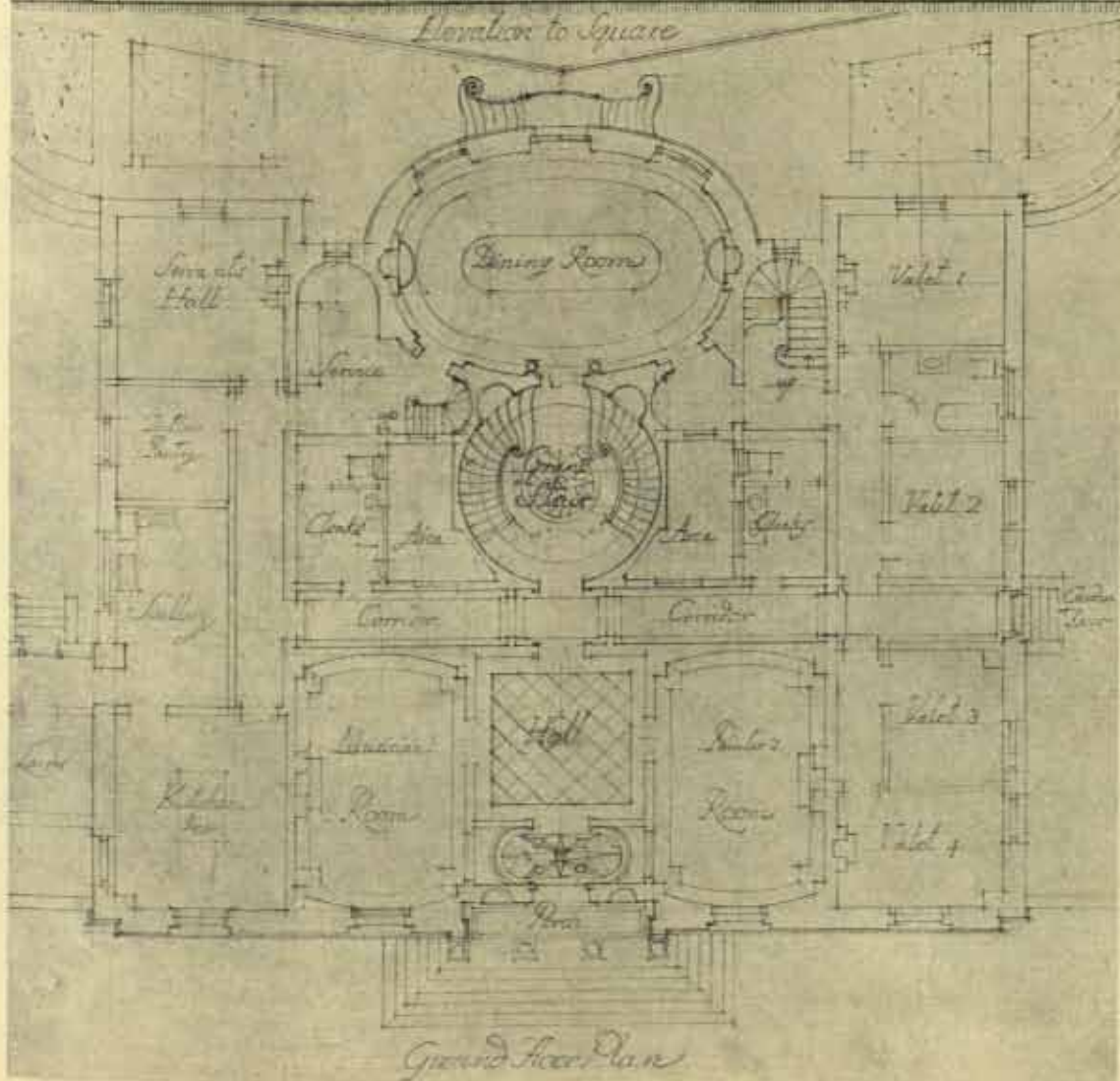
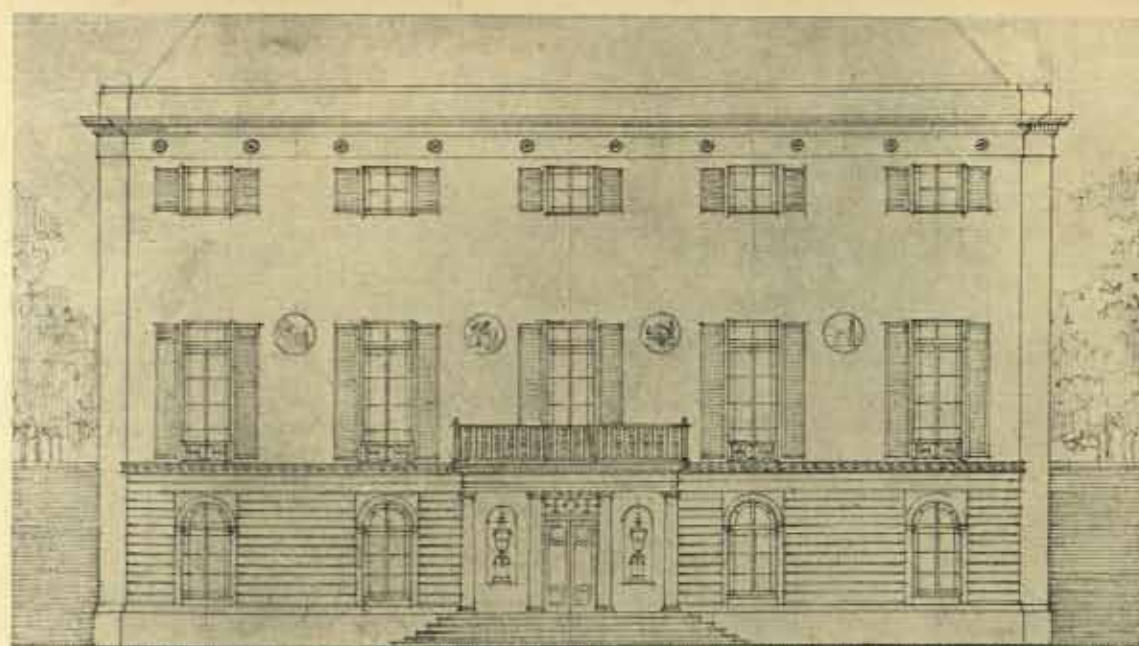
Domestic architecture for towns is a subject that is little understood, and the attention of masters of schools should be given to direct students under their charge to the planning methods followed by the Adam Brothers during the second half of the eighteenth century as well as to the masterpieces of Belanger, Brongniart, and Percier.

In this particular problem an unusual site was purposely chosen to encourage the candidates to design dissimilar elevations facing converging roads, and to increase the difficulties of the subject. In practice such a site would rarely be met with or allowed. The Examiners were pleased to see the advance made in the works of students of the leading architectural schools, and strongly recommended all students to join a recognised school where design is given prominence. They also take this opportunity to protest against the indiscriminate application of the Orders which some candidates deemed essential, and regret that strange caricatures of Classic detail were introduced as features of interest.

HARRY REDFERN } Hon.
A. E. RICHARDSON } Examiners.



A TOWN RESIDENCE FOR TWO ARTISTS: MR. PATRICK ABERCROMBIE'S DESIGN.





9 CONDUIT STREET, LONDON, W., 23rd January 1915.

CHRONICLE.

R.I.B.A. Record of Honour : Sixth List.

The following is the Sixth List published in this JOURNAL of Members, Licentiates, and Students of the Institute who are on War Service. The total number to date is 419, comprising 30 Fellows, 192 Associates, 77 Licentiates, and 125 Students :

FELLOWS.

Hubback, A. B. : Major, 19th Battn. London Regt.
Livesay, G. A. Bligh : Lieut., 5th Bn. S. Wales Borderers.

ASSOCIATES.

Barrow, J. W. : 5th Bn. King's Own Royal Lancaster Regt.
Birkett, Stanley : 21st Bn. Royal Fusiliers.
Diekle, Prof. Arch. C. : Lieut., Manchester University O.T.C.
Griffin, D. M. : Sergeant, 18th Bn. Liverpool Regiment.
Lenton, F. J. : Royal Engineers.
Miller, S. R. : 13th Bn. County of London Regt.
Taylor, H. S. : 13th Bn. County of London Regt.

LICENTIATES.

Dicken, Aldersey : Public Schools and Univ. Bn., R.N.Div.
Stallwood, H. A. : Singapore Royal Engineers.

STUDENTS.

Aitken, James : London Scottish.
Allen, George Alfred : Royal Engineers.
Bagenal, Philip Hope Edward : Royal Army Medical Corps.
Baily, B. W. S. S. : Lieutenant, 5th Bn. Wilts. Regiment.
Batty, William Arnold : 8th Battalion West Yorks Regiment.
Bone, J. Craigie : 9th Royal Scots.
Cawkwell, Robert : Hallamshire Regiment.
Clifton, Edward Noël : Corporal, Artists' Rifles.
Cossar, G. A. : Second Lieutenant, 6th Hants Regiment.
Cundall, P. H. : 3rd Public Schools' Battalion Royal Fusiliers.
Curwen, J. S. : Lieut., 3rd Bn. Loyal North Lancs. Regt.
Eiloart, Ronald E. : R.A.M.C. (Terr.).
Eveleigh, Graham Tom : 5th Battalion Somerset L.I.
Fisher, K. J. : 4th City Bn. King's (Liverpool) Regiment.
Hamilton, I. B. M. : Lieutenant, Gordon Highlanders.
Harrison, A. St. B. : Artists' Rifles.
Harrison, Harry St. John : Officers Training Corps.
Hough, T. B. D. : Lieutenant, 8th Bn. E. Yorks Regiment.
Johnson, R. S.
Key, W. Donald : Seaforth Highlanders.
Lavender, E. C. : 5th S. Staffordshire Reserve Bn.
Mullins, Geoffrey Thomas : Artists' Rifles.
Nichols, C. E. : Officers Training Corps.
Pite, Robert William : Royal Engineers.
Rix, Alec Donald : 3rd Norfolk.
Powell, F. H. N. : Regimental Scout, Hants Carabineers.
Robertson, Godfrey A. K. : Royal Scots.
Rogers, W. J. : 1st Battalion Monmouthshire Regiment.
Rudman, Walter : 4th Public Schools' Bn. Royal Fusiliers.
Sherwin, Cecil L. : R.A.M.C.

Vergetti, Robert George : Glamorgan Yeomanry.
Whitbread, George : 6th Battalion Manchester Regiment.
White, P. G. : Private, 28th County of London (Res.).
Wilkinson, Walter George : 3rd London Yeomanry.
Woodroffe, Norman F. : Lieutenant, Queen Victoria's Rifle.

Mr. Maurice Webb, son of Sir Aston Webb, R.A., and President of the Architectural Association, who on the outbreak of war enlisted in the Royal Engineers as a private, has obtained a commission in that regiment. Mr. R. M. Pigott [A.] has also received a commission in the same regiment.

With regard to Mr. James Carey, Piper in the London Scottish Regiment, stated unofficially to have been killed in action (and so reported in the last number of the JOURNAL), we now learn that there is some uncertainty on the point. All that can be said with certainty is that he is missing. His comrades believe him to be wounded and in the hands of the enemy.

Retention of Enemy Members.

At the General Meeting of the 4th January the following motion was on the agenda in the name of Mr. Max Clarke [F.] :—"That the Austrians and Hungarians, seven in number, now enemies of the King, whose names appear in the KALENDAR for the present Session on page 231, cease to be members of this Institute and their names be removed from the list of members. And also that the Germans, eight in number, now enemies of the King, whose names appear in the KALENDAR for the present Session on page 232, be dealt with in a similar manner."

THE PRESIDENT (Mr. Ernest Newton, A.R.A.), in calling upon Mr. Max Clarke to bring forward his motion, expressed doubt as to whether it was in order, the expulsion of members being a matter to be dealt with by the Council under certain by-laws and with certain regulated machinery. As he did not wish, however, to appear to stifle discussion, he would not rule it out of order, though he thought the Council would not be bound by the voting should the resolution be carried.

MR. MAX CLARKE, in moving the resolution, said that the Germans had committed deeds that were unworthy to be called war. Their barbarous conduct in Belgium and in France, their brutal raids on Scarborough, Hartlepool, and Whitby, placed them outside the pale of civilisation. The gentlemen referred to in the resolution believed, he supposed, in culture of some sort, but what the Germans called culture was something that we in this country did not understand. If the Institute had no method under the by-laws of severing its connection with such people it was very much to be regretted; but the circumstances were unusual, and if the resolution was out of order he would at a later date bring forward a proposal to which that objection could not be raised, and which, if agreed to, would enable them to sever their connection with these undesirable people.

MR. MAURICE B. ADAMS [F.] said he was prepared to second the resolution as it stood, or to join in a recommendation to the Council to take steps to give effect to what the resolution was aimed at. It would seem to be playing with words if the resolution were to be buried on a mere technicality. We were determined that as far as could be ensured we would not associate—at any rate for the present—with people who could be guilty of the abominable deeds which had been perpetrated in this war, and anything we could do to express our abhorrence of such conduct ought to be done. Perhaps the President would say a few words as to whether the suggested recommendation would be favourably considered by the Council.

MR. WM. WOODWARD [F.] supported the motion. With

regard to Mr. Adams's suggestion as to the manner in which it might be modified so as to avoid the use of the term "expulsion," he suggested that the means employed by English clubs in the case of alien members should be adopted, and that the enemy members of the Institute should be asked to resign. In view of the revelations of the British White Paper and the French Yellow Book he felt justified in using in regard to the German nation terms which might not be considered proper. But the point now before the Institute was not so much that. The Institute existed for the advancement of architecture and art, and if we remembered what had taken place in Belgium and in France we must see what terrible degradation had followed the German armies in those countries. Reading German literature, one could not avoid the conclusion that it was not only the war party in Germany which was responsible for these acts of vandalism, but also the so-called cultured party, of which the gentlemen referred to in the resolution formed a part. Therefore he agreed that the Institute should bring home to the German nation as clearly as possible that the representatives of art and architecture in this country condemned in the strongest way the atrocious acts which had been committed.

Mr. T. ROWLAND HOOPER [A.] moved the following amendment: "That as our membership is for the general advancement of Civil Architecture and the mutual recognition of those interested or distinguished therein, it is beneath the dignity of this Institute to strike off the names of members because our nation and theirs are unhappily at war." At a time like the present, Mr. Hooper said, our thoughts were excited and our feelings stirred, but when we came to the expression of our feelings we did well to ask ourselves the old Latin question *Cui bono?* As a learned society the further question became necessary, was it beneath their dignity, or was the result likely to be mischievous? The gentlemen referred to in the resolution had had no more to do with the war than had members of the Institute; some of them had been over here, and those who had met them would agree that they were charming personalities. The time was coming when the war would cease, and there would then be a reconstruction. He believed the Institute would be found to have helped the reconstruction if they now stood firm to the solidarity of those higher things which would live and endure when the forms of nations would have come to an end. Therefore he asked his hearers, as patriots and architects and artists who desired the welfare of their country, not to pass the resolution, but to approve his amendment.

Mr. W. R. DAVIDGE [A.] seconded the amendment. We condemned the Germans, he said, for dealing with hostages in the way they did, yet the members referred to came into much the same category; they were hostages in the Institute's hands, and to pass this resolution would be to treat them in a cowardly fashion: it would be practically killing them, as far as the Institute was concerned, as well as stultifying any action which the Institute might conceivably be able to take in the future. During the war those members were already deprived of the privileges of membership, and suffered the penalty of being cut off from communication with our country. We did not know that they had done anything to merit such punishment as the resolution would inflict. Even now, if representations were suitably made through some neutral channel, those members might prove of inestimable service in securing some of the results which all architects desired—the preservation of everything worth preserving. While agreeing with the condemnatory remarks that had been made, he felt it his duty to support the amendment, for he differentiated between the actions of a Government and the actions of individuals, and he deprecated the Institute taking a step which would be not only undignified, but unworthy of the position it held in the world of art and architecture.

Mr. T. C. YATES [A.] supported the amendment. Our war was against oppression and militarism, not against architects. He agreed with the denunciatory remarks that had been made, but German architects had had no hand in the deeds complained of, and he hoped when peace came that architects in both countries would be found to be still very good friends.

Mr. G. A. T. MIDDLETON [A.] said that as this was a Chartered Institute, and Britain was at war with Austria-Hungary and Germany, the question was whether the subjects of those countries should not, *ipso facto*, cease to be members.

Professor S. D. ADSHEAD [F.] said the point at issue was that this was an Institute which watched over architecture, and as such it was only interested in architectural societies and industries in Germany. It was not their province to look after national questions; and there was no evidence that the architects of Germany were responsible for the atrocities that had been committed—these were due to the military party. The Institute had no moral right to strike these names off the register.

Mr. H. W. WILLS [F.] pointed out that, for aught the Institute knew, these enemy members might be protesting in the strongest possible fashion against what had been done. It would be wrong on the part of a professional body to pass such a resolution. The contingency of a war was not contemplated when their constitution was framed, and in order to give effect to the resolution it would be necessary to revise the Charter. By the time this had been brought about the war would probably be over, and the necessity for the removal of the names would no longer exist.

Mr. A. R. JEMMETT [F.] supported the amendment, contending that to pass the resolution would be childish and undignified. If there was any body of men in Germany who deprecated the destruction of these ancient monuments it was probably our Hon. Corresponding Members, and to attempt to show our disgust by penalising them would be to penalise the very people in Germany who were likely to think with ourselves.

The amendment being put from the Chair, ten voted for and ten against it.* Several members asked for the vote to be taken again, as some had refrained from voting.

The President replied that it would be irregular to vote again. The onerous duty was imposed on him of giving the casting vote, and of showing that he took sides.

Mr. ROBERT J. ANGEL [A.] suggested that the President could declare "No order."

The President thought that would not be a courageous solution of the difficulty. He wished to record his casting vote and to give the meeting the benefit of his own views, whatever they might be worth. Those views were that he believed Germany would awake as from a horrible dream when once this militarism, which was really foreign to its character as a nation, was finally crushed. He therefore preferred to see the amendment carried, and would accordingly give his casting vote in its favour.*

The amendment being put as the substantive motion was carried by 10 votes to 9.

The proceedings then terminated.

Whitby Abbey: Damage from the Bombardment.

Mr. John Bilson, F.S.A. [F.], a Vice-President of the Royal Archaeological Institute and one of the local secretaries for Yorkshire of the Society of Antiquaries, has prepared the following report on the damage to Whitby Abbey caused by the bombardment of the 16th December, which he is communicating to the Society of Antiquaries:—

"The west end of the nave has suffered most. This is the latest part of the church, dating from the early years of the fourteenth century, and its condition before the bombardment was as follows: The lower part of the west wall of the nave itself was standing up to the level of the sill of the great west window; the west doorway was complete, except its central column and part of its tympanum, and on each side of the doorway

* There were present 11 Fellows (including 5 members of the Council) and 14 Associates (including 3 members of the Council).

on the inner side of the wall, was a wall-arcade of similar character to those of the nave aisles of York Minster and the west end of Howden Church. The western respond pier of the north arcade of the nave remained its full height, with its capitals and the springing of the arcade arch, and behind this was a newel-stair. The north jamb of the great west window remained its full height up to the springing, attached to the wall and buttress containing the stair. The west wall of the north aisle was fairly complete to its full height, except that the window had lost part of its tracery, which, like the great west window of the nave, was an insertion of the fifteenth century.

"The arch of the west doorway and the walling above it have been destroyed. The wall arcades on either side of the doorway have collapsed, leaving the rubble core of the wall—except a small fragment at each end, north and south. The north jamb of the great west window has fallen, with the whole of the eastern half of the stair, down to below the capitals of the respond pier. The south half of the inner arch of the west window of the north aisle has fallen, and what remained of its tracery has been dislocated. Much of the north face of the buttress in line with the west wall of the aisle has been stripped off.

"Elsewhere the church has suffered some lesser injuries. The gable-end of the north transept is flanked by turrets rising from great buttresses; on the eastern of these the upper arcade has lost one of its arches and small gables, and one of the gables of the lower arcade has lost its apex stone; the wall around the eastern angle of the buttress at the latter level shows signs of having been struck and some surface damage, and the blow seems to have brought down two arch stones from the north side of the bay of the east clearstory of the transept next the crossing. One of the main piers of the north arcade of the choir, the fourth from the east end, has been struck, and the capitals of two of its shafts on its north-east side have been shattered. Otherwise the beautiful choir has fortunately almost entirely escaped injury."

German Architects on Wanton Destruction and Military Necessity.

The Society of German Architects and Engineers have made the following reply to an appeal of the Architects' Club in Lausanne for the preservation of ancient buildings and works of art in the theatre of war:—

The Society of German Architects and Engineers entirely shares the view that wanton disturbances and destruction of all kinds ought to be avoided, as opposed to the spirit of civilisation. In particular, we sympathise with your condemnation of the destruction of works of art of all kinds. Above all, we condemn those acts of war which make use of ancient buildings in such a way that the enemy is compelled to attack them, even although the desire to spare them may be present. And we condemn those who, after compelling the enemy to destroy a work of art in the way of a building, make their enemies responsible for the destruction and hold them up to the contempt of the world.

Appointments for Architects in France.

With reference to the notice under the above heading which appeared in the last issue of the JOURNAL, after the paragraph went to press a request was received that the names of candidates should be submitted without delay, and as suitable applicants were immediately forthcoming the necessary recommendations were at once made to the War Office. When the notice was inserted it was not expected either that the profession could so readily supply the demand, or that the time at disposal for selection would be so limited. I hope that this explanation may be accepted by any who have been good enough to apply, but whose applications have, through the above circumstances, been received too late for consideration.

It has been brought to the notice of the Institute that in one or more cases application has been made direct to the War Office and pressure placed on the authorities there to grant interviews on the strength of a supposed preference which the possession of the Institute JOURNAL implies. It is hardly credible that any member of the Institute should adopt such a course of action, which not only shows a disregard for the voluntary organisation by which the Institute is endeavouring to assist the War Office, and indirectly the architectural profession, but a lack of consideration for a Department of State already overburdened with work and applications in connection with the war. In expressing regret to the War Office that this should have occurred it has been added that any such application should be ignored.

ALAN E. MUNBY [F.],

Hon. Secretary, Selection War Committee.

Architects' War Relief Fund.

Shortly after the beginning of the war, the Architects' War Committee issued an appeal to the profession for subscriptions to a special fund for the relief of distress among architects and those dependent upon them. In response to this appeal and to a further appeal issued by the Professional Employment Committee of the Architects' War Committee, subscriptions to the amount of £1,208 8s. 3d. have been received.

There is reason to suppose that distress in the profession, due to the war, is steadily increasing, and that in the course of the present year the position may be a very serious one. It is therefore hoped that all who are in a position to do so will contribute as generous donations as possible to the Relief Fund.

Cheques should be drawn in favour of the Hon. Secretary of the Architects' War Committee, 9 Conduit Street, Regent Street, W.

Restoration of the Roof of Westminster Hall.

The work of restoring and strengthening the roof of Westminster Hall by means principally of steel trusses will be begun very shortly. For the past six months the Office of Works has been considering the problem of building a scaffold to carry the trusses.

It will be remembered that the thorough and systematic examination of the roof from a pole scaffold in 1913 revealed a serious condition of decay and grave structural instability, due mainly to the ravages of the larvæ of a beetle—*Xestobium tessellatum*. The recommendation of Mr. Frank Baines, M.V.O., one of the principal architects to the Office of Works, that the roof should be reinforced rather than renewed, was accepted by Lord Beauchamp, the First Commissioner of Works, after having been submitted by him to the Ancient Monuments Board. Mr. Baines's scheme is the construction of a complete steel truss for the roof so that the existing timbers may be preserved as they stand, or patched and repaired with modern oak where they are decayed.

The beauty of the ancient roof will be preserved unimpaired by the method of treatment proposed, the risk of collapse will be removed, and the decay of old timbers will, it is hoped, be arrested.

The stone slabs of the floor of the Hall are being taken up, and a timber rail base laid down for carrying the tremendous weight of the steel scaffolding, which will amount to 180 tons, apart from the superimposed load of the trusses. At the south end the steel stage has been raised almost to the full height of the Hall, and the great apparatus for supporting the enormous trusses are in position. Another section of the work now in progress is the erection of a false temporary roof over the existing slate roof outside the Hall. As all the slates will have to be stripped off, this temporary roof is intended to preserve the structure from the weather.

The Rebuilding of Belgium after the War.

In furtherance of the scheme initiated by the International Garden Cities and Town Planning Association for securing proper consideration of the rebuilding of Belgium after the war, the first of what is expected to be a series of Conferences will take place in London from 11th to 16th February. It is hoped that the Conferences will take place at the Guildhall of London. The Lord Mayor will give an official welcome, Mr. Herbert Samuel will open the Conference, and Mr. Helleputte, the Belgian Minister for Agriculture, will represent his Government.

On Thursday, 11th February, and Monday, the 15th, a series of reports will be submitted to the Conference, and discussions will take place as to the application of garden city and town planning ideas to Belgium and the changes in the law which would become essential. On Friday, the 12th, an excursion will be made to Letchworth Garden City, where that scheme will be explained, and on Saturday, the 13th, there will be visits to various municipal institutions and to the Hampstead Garden Suburb, where further explanations will be given. On Monday it is expected that Mr. Raymond Unwin will open the Conference on Town Planning Law, and on Tuesday there will be further visits.

The language of the Conference will be French. Coincident with the Conference it is proposed to have a small exhibition of plans and diagrams of garden city schemes.

Lectures on Belgian Art at the University of London.

The first of a course of five lectures on Belgian Art by M. Camille Poupeye, of Malines, was delivered in the Architectural Lecture Theatre, University College, Gower Street, on the 21st January. The subject of this first lecture was Architecture. The syllabus of the remaining lectures, to be delivered at 5.30 p.m. on Thursdays, 28th January, 4th, 11th and 18th February, is as follows:—

- II. SCULPTURE.—Origins. Romanesque sculpture. Gothic, showing French influence. Flemish realism of the Fourteenth Century. The School of Tournai. Woodcarvers of Brabant (Fifteenth and Sixteenth Centuries). Renaissance and Italian Influence. Influence of Rubens and Bernini (Seventeenth and Eighteenth Centuries). Belgian sculptors abroad. Modern sculpture.
- III. and IV. PAINTING.—Origins. Franco-Flemish Painters of the Fourteenth Century. The brothers Van Eyck and the School of Primitives. First Italian influence. Romanists. Rubens and the School of Antwerp (Seventeenth Century). Decline during the Eighteenth Century. French influence during the Nineteenth Century.
- V. DECORATIVE ARTS.—Tapestry: Schools of Tournai and of Brussels. Furniture: Ecclesiastical and Civil, Gothic, Renaissance, Baroque and French influence (Eighteenth Century). Modern style. Metalwork: Jewellery and Dinanderie. Stained Glass: Earthenware and Engraving. Conclusion.

Admission to the lectures is free, by ticket to be obtained on application to the Secretary, University College, Gower Street, W.C.

Mr. Blomfield and the S.A.D.G.

On the proposition of the Council of the Société des Architectes diplômés par le Gouvernement Français, at their Annual General Meeting on the 28th December last, Mr. Reginald Blomfield, R.A., was elected Membre Correspondant of the Society. In a communication to Mr. Blomfield announcing the fact, M. Hermant, President of the Society, states that his Council were peculiarly glad to accord this mark of their esteem and sympathy, as a souvenir of the Anglo-French Exhibition of Architecture held in Paris last May, an event which had created a new bond of sympathy and union between the Society and the Royal Institute of British Architects.

New Waterloo Place.

Some changes worth noting are in progress at Waterloo Place, where a statue to Florence Nightingale is in course of erection, and where also it is proposed to place the statue to Sidney Herbert, by Foley, which now stands in the quadrangle at the War Office. For the purpose of symmetrical grouping, the Guards' Memorial has been removed back 40 feet towards Regent Street, and the new statues will occupy part of the site of the memorial, being placed 9 feet apart,

so that the whole group will take, roughly, a triangular form, facing the line of Pall Mall. Miss Nightingale's statue will stand to the westward and Lord Herbert of Lee's on the east.

The Architectural Association Collection of Lantern Slides.

It was recently stated in these pages that the Institute had handed over a number of lantern slides to the Architectural Association, and that the Council of the latter body had agreed to members of the Institute borrowing slides from the A.A. collection without payment. It transpires that this was not the intention of the A.A. Council, as it would place members of the Institute in a more privileged position than members of the Association. The arrangement is that members of both bodies shall be on the same footing, which means that members of the Institute are free to borrow from the A.A. collection on payment of 1d. per week for each slide, and cost of carriage both ways if sent by post. The collection is available to the Institute for its own lectures without charge.

"Beautiful London": Mr. Raffles Davison's Drawings.

In order to attain the objects of its existence, one of the chief aims of the London Society is to sustain and increase the interest and pride of the citizens of London in their great city. This may be accomplished both by emphasising its actual inherent beauties as well as by indicating the best means for its future improvement and development. The *British Architect* has taken its share in this work, and in its Annual Special Number issued this week it reproduces some of the many sketches and drawings of "Beautiful London," from the series which is being prepared by Mr. T. Raffles Davison. In this series an endeavour has been made to show something of the architectural and pictorial value which London already can boast of in its streets and buildings. The two great towers of the Houses of Parliament, the interior of Westminster Hall, our City churches, our great thoroughfares of Whitehall and the Victoria Embankment, and our river views are amongst the features of the city which afford us all constant pleasure and satisfaction. Their portrayal has been evidently a labour of love to Mr. Davison. The drawings exhibit a rare skill and charm, and no pains have been spared to get good reproductions for the *British Architect*. The publishers are to be congratulated on an excellent number.

"Journal" and "Kalendar" Advertisements.

Having regard to the large and influential circulation that the Institute JOURNAL and KALENDAR enjoy, it is felt that the revenue from advertisements should be larger than it is at present, and the assistance of members to make it so would be gladly welcomed. Members may help materially by applying as often as possible to the firms advertising in the JOURNAL for

samples and prices, and by quoting the reference numbers or letters sometimes given in the advertisements. The advertisement business in both publications is conducted solely by Mr. Thomas Tofts, 93 and 94, Chancery Lane, W.C. (Tel., Central 8106; T.A., Ribadire, London), and he would be glad to receive trade circulars and catalogues. Members occasionally require information as to the names of manufacturers of specialities, and Mr. Tofts would gladly obtain such information and put manufacturers in touch with them. Members desiring quotations and not wishing, in the first instance, to disclose their names to the firms asked to quote or send samples may have replies sent to a box number, and members are invited to avail themselves of this facility.

COMPETITIONS.

Council Resolution No. 6 and By-laws 24 and 25.

The attention of Members and Licentiates is specially called to the Resolution No. 6 on page 70 of the KALENDAR. Members or Licentiates who disregard this Resolution will be dealt with by the Council under the provisions of By-laws 24 and 25, and will be liable to reprimand, suspension, or expulsion.

THE EXAMINATIONS.

The Final: Mark of Distinction for Thesis.

Mr. Leslie Patrick Abercrombie, of Liverpool University, who passed the recent Special Examination qualifying for candidature as Associate, has been awarded by the Board of Architectural Education the mark of distinction for his Thesis on "The Development of the Plan and Architectural Character of three European Capitals—Paris, Vienna, and Brussels."

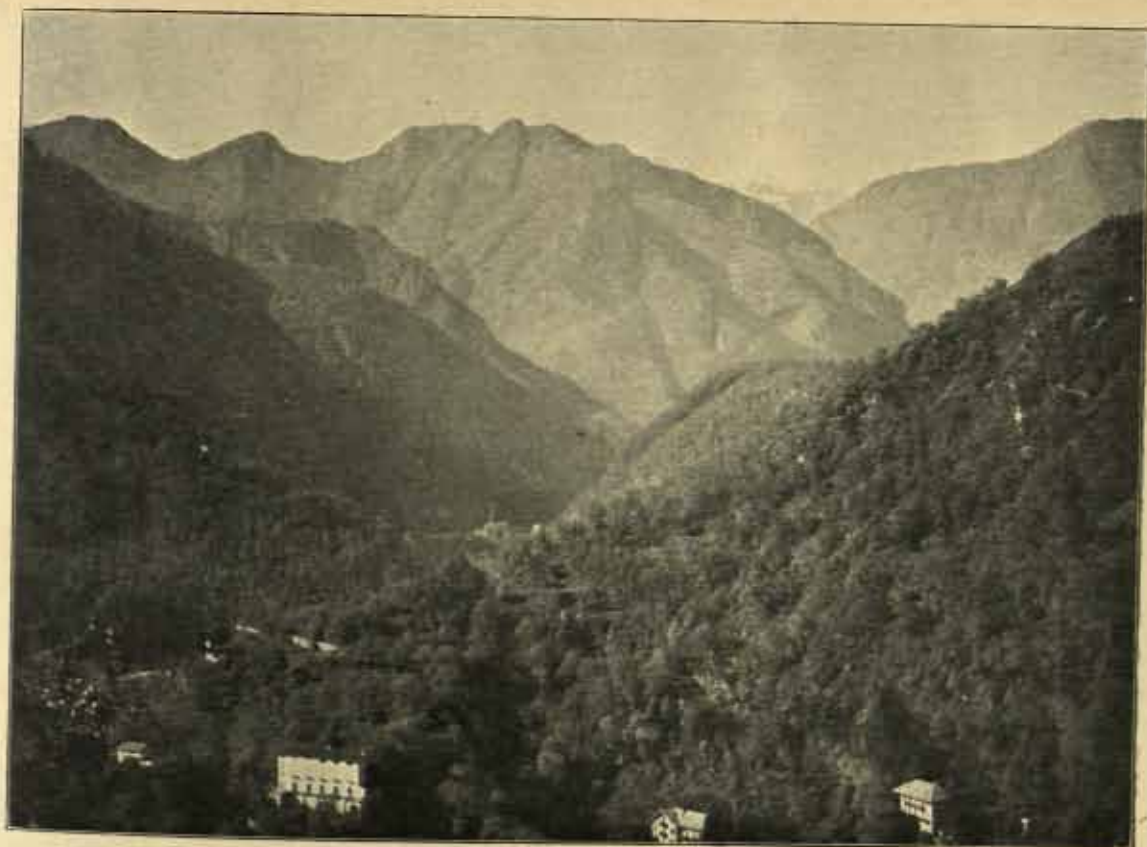
MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session 1914-1915, held Monday, 18th January 1915, at 8 p.m.—Present: Mr. A. W. S. Cross, *Vice-President*, in the Chair, 14 Fellows (including 6 members of the Council), 22 Associates (including 1 member of the Council), 6 Licentiates, and numerous visitors—the Minutes of the General Meeting (Business) held Monday, 4th January 1915, were read and signed as correct.

The decease was announced of John Henry Cesar, *Licentiate*. Mr. Gilbert George Lee Tyte, *Associate*, attending for the first time since his election, was formally admitted by the Chairman.

A Paper by Mr. F. C. Eden, M.A. Oxon., on VARALLO AND ITS IMITATIONS, having been read by the author and illustrated by lantern slides, on the motion of Mr. Paul Waterhouse [F.], seconded by Mr. Edward Warren, F.S.A. [F.], a vote of thanks was passed to him by acclamation.

The proceedings closed and the meeting separated at 9.50.



Varallo: Valley of the Sesia from Sacro Monte.

Photo: Lumley Carter.

VARALLO AND ITS IMITATIONS

By F. C. EDEN, M.A.Oxon.

Read before the Royal Institute of British Architects, Monday, 18th January 1915.

WHEN you honoured me by a request to read a Paper on the Ecclesiastical Buildings of Northern Italy, I felt that the best way of interpreting, however inadequately, your wishes would be to confine myself to the one corner of the field with which, as a result of repeated visits, I could lay claim to some familiarity.

The district to the south of Monte Rosa and the Simplon, while not remarkable for the excellence of its ecclesiastical architecture, is rich in the interesting class of buildings known as sanctuaries, and it is to some of these that I desire to direct your attention this evening.

They are of every degree of architectural importance, ranging upwards from the tiny mountain shrine, rudely built and poorly furnished, at the bottom of the scale, through the modest church provided maybe with lodgings for a chaplain or a suite of rooms for the accommodation and refreshment of pilgrims, to the vast proportions of such an institution as Oropa, dominated by its enormous hospice. Others consist of scattered chapels grouped round a monastery, or strung out along the way to a pilgrimage church, famed for the possession of a miraculous image or other venerated object. Each has its special *festa*, usually in August or September, attended by larger or smaller throngs of country folk, according as the celebrity of the sanctuary is confined to its own valley or is something more than merely local. They are to be found in the most varied situations, on the very mountain top, on the verdant slopes of the foot-hills, and by the high road that skirts the valley. I call to

mind one such road-side sanctuary near Mosso. An octagonal chapel and a fountain cut out of a single stone mark the approach; a broad flight of steps shaded by fine old chestnut trees leads to a grassy fore-court along which stretches the strangely low and broad façade of the little church. No description or illustration could convey or elucidate its charm. Such is the sanctuary of Banchette; devoid, I dare say, of any beauty of a technical sort, yet exquisite and unique.

But the most complex and interesting type of sanctuary is undoubtedly the Sacro Monte. This consists of a series of chapel-like buildings designed to protect and exhibit groups of life-size statuary, provided with porticoes or other shelter for spectators, and so arranged as to be approached in a definite order. Of these Varallo is the most famous, both as being the first thing of its kind, and for the great artists who participated in its production.

In the year 1481 Bernardino Caimi, member of a noble Milanese family, minor observant of the Order of S. Francis, on returning from Palestine,* conceived the project of founding a sanctuary, to be as it were a new Jerusalem, which should represent with some verisimilitude the sacred sites yet fresh in his mind.

Great ideas are seldom original in their essence; usually they are based on something that has gone before. The originality of genius merely precipitates what was already in solution. That this was the case with the new idea of the Sacro Monte a short retrospect will suffice to show.

In the fourth century, as we learn from the *Peregrinatio Silviæ*, the most conspicuous outward characteristic of the church in Jerusalem was what may be called the topographical element. Cere-monial was so intimately connected with the Holy Places that processions interrupted by "stations" made at each in turn played a larger part in public worship than was the case elsewhere. A thousand years later the same system is found in vogue, but in a different relation. As authorised guardians of the Holy Places it was the duty of the Franciscans established in Jerusalem to take charge of all pilgrims from the West, a duty which they discharged with business-like efficiency. The only way to cope with the increasing throngs, and to minimise the danger from Mahommedan fanaticism and violence, was to check loitering—it was no fault of the friars if a visitor to the *Saunte Terre* became a *saunterer*—and to get through the business of the pilgrimage in the shortest possible time. This could only be accomplished by orderly and methodical system. The consequence was that every pilgrimage became a procession, traversing a pre-determined route, visiting the sacred sites in a recognised order, and halting at certain spots, chiefly connected with the *Via Dolorosa*, and known as "stations." In this arrangement, adapted from the traditional ceremonial of the local church to meet a practical need, lay hidden the germ of a form of devotion destined to become very popular in the western church.

On their return home it was not unusual for the wealthier pilgrims to make memorials of their pilgrimage. In the Middle Ages all such efforts naturally assumed monumental form, as naturally as nowadays they would take book form, and so the Great Pilgrimage left its mark upon the architecture of Europe. Round churches were built, recalling by their plan the Church of the Holy Sepulchre; attempts were made (as in the well-known example at Bruges) to reproduce as accurately as possible the sepulchre itself. Sometimes more comprehensive memorials were erected, especially of the sites and scenes of the *Via Dolorosa* (as in Adam Krafft's famous series at Nuremberg†), both recalling and suggested by the processional order in which the sites were linked up by the Franciscan management. So the *Via Crucis* and *Calvarienberg* came into existence, to be crystallised later into the familiar XIV Stations of the Cross. The Sacro Monte must be understood as a development of this devotion. The chapels are so many "stations," though not all, nor indeed any of them, necessarily connected with the Way of the Cross. At Varallo the whole of the Redemption Story is displayed in more than forty groups of figures; at Orta the life of S. Francis is the theme; at Varese and Crea the XV Mysteries of the Rosary; at Oropa the life of Our Lady; while Graglia, the grandest

* Whither he had been sent by Sixtus IV. as special commissioner to rectify certain irregularities which had occurred in the Order.

† A.D. 1505-6.

scheme of all, which however never came to completion, and is now ruinous, was to have included no fewer than a hundred scenes from the life of our Lord.

As in its origin so in its evolution the devotion was typically Franciscan, and the three best known sanctuaries of this class all grew up under the fostering care of that famous Order.

About the year 1486, after examining many sites, Caimi came to the conclusion that the spur overhanging Varallo, formed by the junction of the Sesia and Mastellone Valleys, and known for its steepness as "*sopra la parete*," was the most convenient for his purpose. The townsfolk falling in readily with the project, he obtained cession of the ground and also of the site for a convent at the foot of the hill. Some sort of establishment in Varallo itself was essential; a place for work, study, collection of materials and direction of the workmen. So the convent and church of S. Maria delle Grazie at the foot of the hill came into being. The steep, narrow path by which the hill-top had been approached was succeeded by a commodious road for the transport of materials; and finally in the year 1491 took place the inauguration of the Chapel of the Holy Sepulchre, the *clou* of the whole scheme.

Caimi was a man of extraordinary energy. Though constantly travelling on the business of his Order, he managed to find time between his tenure of various offices to visit Varallo for the purpose of organising, directing and hastening the completion of the work. And to such good purpose that at the end of his life (1499) he left not only a sufficient number of executed groups to make his conception clear, but a fund of potential energy to carry it to completion.

The plan unfortunately gives no idea of the inequalities of the ground, so that the winding path looks almost as meaningless as the serpentine meanders of a flat English garden: its convolutions are, of course, mainly conditioned by the levels. During the course of a century from the foundation of the sanctuary many chapels had been erected by public and private munificence on sites selected arbitrarily so far as the chronology of the events commemorated is concerned, so that it had become difficult to approach them in proper sequence. Towards the end of the sixteenth century Pellegrino Tibaldi was called in to rectify this confusion. He prepared a report in which he suggested shifting some of the groups, accompanied by a plan, still in existence, to show the connecting path re-arranged very much as it now exists.

The group of chapels, 2, 3, and 4, occupy the lowest level of the site, and the large circular chapel of the Transfiguration the highest point; the part known as the Piazza Maggiore, round which the more important buildings are gathered, and the so-called Piazza dei Tribunali lying in a slightly lower level. To the south and west the ground falls away precipitously towards the town; less so to the east, while towards the north it rises, at first gradually, then more steeply, to a forest-clad hill, from whence you may get a good bird's-eye view of the whole Santuario.

In spite of their variety the planning of these chapels is of the simplest. Three systems have been followed.

The very earliest was a simple rectangular chamber without any sort of barrier or division, so that the spectators actually passed through the show-space. There were obvious inconveniences to this arrangement, witness the sixteenth century names and dates still to be seen scribbled on the frescoed walls of the Crucifixion Chapel, and so the place for the spectators came to be railed off. The partition was effected by a screen or grille of carved wood, so designed as to allow an easy view of the ceiling and wall paintings as well as the figures. Most of these screens are highly ornate and varied in design. In the latest examples the whole of the interior space is given up to the sculptures, and an external portico is added for the accommodation of the pilgrims. Both methods, the screen and the portico, are used at Orta, at Varese the latter only.

The walls are of plastered rubble with granite dressings, and the roofs are covered with the heavy stone slabs which give such dignity and character to all roofs in these upland valleys.

It is the piazza with its two-storeyed cloister and circumjacent chapels that must be deemed the climax of the whole composition, not the big church, which strikes the only jarring note with its aggressive modern façade.

In a corner of the cloister an insignificant doorway, adorned with nice decorative painting, leads to the earliest of Caimi's buildings. This contains an exact replica of the Holy Sepulchre, hewn out of the rock, and may be considered the focus of the series, the main object of pilgrimage, that in fact which makes of the Sacro Monte a Nuova Gerusalemme. Part of the north side is occupied by a reproduction, or what professes to be such, of the Scala Santa, reaching the upper cloister between an avenue of delicate columns. This upper cloister is provided with *clair-voyées*, through which glorious views of the valley are obtained. The opposite corner of the piazza is occupied by the more important chapels, partly raised on lofty substructures, partly on the native rock, and approached by flights of steps.

At Varallo the chief artistic interest centres in the contents of the chapels, at Orta and Varese in the buildings themselves. These, as we saw, are designed to contain groups of painted imagery, which combine with their frescoed backgrounds to form tableaux of Sacred History, emphasised with all the realism of a scene on the stage. It is hard to resist the conclusion that the designers of these tableaux had in mind the scenes in the *Sacre Rappresentazioni* or Mystery Plays with which they would be familiar. The chapels are in fact small theatres, and their form must, I think, have been suggested by the little erections called "mansiones" used in the Mysteries, and labelled "Palatium," "Templum," and so forth, from one to another of which the actors moved for the different scenes of the drama.*

The arrangement of the groups themselves follows in many points the accepted conventions of the contemporary religious theatre; such are, for instance, the introduction in the Annunciation scene of a *prie-dieu*, one of the recognised "properties" in representation of that subject; in the Flagellation, the man in the foreground stooping down and tying a bundle of rods; the crowd of what are really stage "supers" following in the Way to Calvary; the arrangement of the personages in the Last Supper; five one side of the table, three at each end, and two, one of them being Judas, on the remaining side.

In forming a judgment upon the merits of these sculptures as works of art, it must be remembered that their function is utterly different from that of any other kind of statuary. They do not exist to adorn or give point or expression to a building, or a lay-out, but to tell a story. Anything calculated to distract the attention must be rigidly excluded; they are essentially isolated works of art, such as could exist for no other purpose.

The setting up of life-size puppets to depict the scenes of a drama is a mode of expression which we are unaccustomed to associate with any idea of art. This unfamiliarity will put us on our guard against forming rash and off-hand judgments.

In estimating a work of art account must be taken of its purpose no less than of its performance. We do not criticise Cosway by the standard of the Erythrean Sibyl, nor need we hesitate to admit that the porches of Chartres are as superb in their place and function as the frieze of the Parthenon. The aim of the Varallo sculptors was realism, not as being in itself a desirable thing, but because realism of the most deceptive kind was necessary to these representations, if each chapel was to be a little stage, lighted in a certain way and seen from a fixed view-point. Given the conditions it would seem that the artists have attained their object with adequate success.

The earliest figures, those which came from the Franciscan workshop, were of wood. But early in the sixteenth century Gaudenzio Ferrari, at that time quite a young man, was summoned to fresco the convent church, where he painted what Symonds calls "a whole epic of the Passion," and what Mr. Berenson describes as "provincial but pretty miniatures on a large scale"; and a few years later we find him at work in the chapels of the Sacro Monte. It was he who introduced the use of terracotta in place of timber for the figure groups; and in 1523 he is engaged upon the groups and frescoes

* There is too strong a resemblance between the chapels and a French miniature of the sixteenth century (B.N. 12,536), in

which these "mansiones" are illustrated, to be altogether fortuitous.

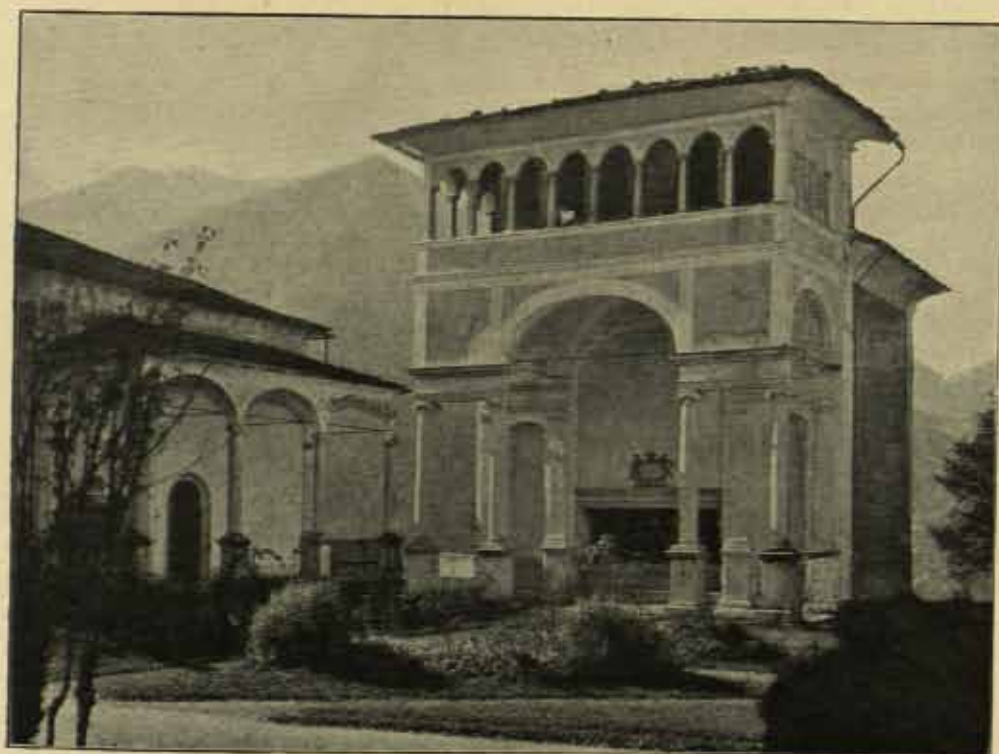


Fig. 1. Varallo: Piazza dei Tribunali.

Photo: Lumley Cator.



Fig. 2. Varallo: Scala Santa.

Photo: Lumley Cator.

of the Crucifixion Chapel, being then at the height of his powers.* Several other artists of note were employed, the most eminent of whom was Jean Wespín, a native of Dinant, in Belgium (1560-1615), known according to the Italian practice by the nickname Tabacchetti. Samuel Butler is the only critic, so far as I know, who has given much attention to the work of Tabacchetti. He is not much given to gush, but here is his opinion of this artist's *chef-d'œuvre*: "The way to Calvary is of such superlative excellence as regards composition and dramatic power, to say nothing of the many admirable individual figures comprised in it, that it is not too much to call it the most astounding work that has ever been achieved in sculpture. I know that this is strong language, but have considered my words as much as I care to do." †

I am not going to pretend that the architectural merits of these buildings considered in the abstract, so to say, or as they would appear when reduced to line and scale, are particularly noteworthy. On the whole it is not so, though Orta and Varese may supply instances to the contrary. It is simply as they are, where they are, and as what they stand for that they make their appeal. A certain romantic influence and spell still seems to hold these sub-alpine valleys, and when the works of man enhance instead of detracting from that rare and vanishing quality they have done all we need ask of them.

The Sacro Monte of Orta occupies a wooded promontory overhanging the town and lake of that name. S. Charles Borromeo touched at Orta on his return from Varallo in 1584, and it is possible that some suggestion thrown out by him may have taken root, and if so the Franciscan Order was the natural soil for such a growth. However that may be, in the following year permission was sought for building chapels and a monastery for minor observants in the hill behind Orta. Three years later Abbot Cannobbio of Novara interested himself in the scheme, and a seventeenth-century inscription on the chapel founded by him (and known as No. XX) declares him to have been the originator of the whole idea.

The same materials are employed here as at Varallo—viz., granite and plaster; but with the addition of a rusty green serpentine, which takes and retains the finest detail, and is used for the smaller moulded members. The lay-out is less confused than at Varallo, and the chapels seem to have been placed so as to get the best effect from each separate building, rather than with an eye to picturesqueness of grouping. By this time any such attempt would have been rendered nugatory by the denseness of the trees. The important chapels VI, VIII, and XV, as well as the *Cappella-non-finita*, are placed each at the end of a broad glade; No. VI, which is rectangular, stands on the level, the others, which are respectively polygonal and circular, on the top of a knoll. An oblong lawn flanked by ranges of stone seats occupies the level ground in the middle; paths and glades are bordered by low laurel hedges, a poor substitute for the original box, of which only a few unhealthy stragglers survive. These, while marked by a consistently fastidious and delicate standard of taste, are curiously old-fashioned; in fact, so far as style goes they are quite a century behind the times. One may conjecture that their author was an amateur of classic architecture rather than a professional architect; an inference borne out by the evidence of the building accounts still preserved in the archives of the monastery, which points to a certain Padre Cleto as having been summoned from Novara *per disegnare*. After his departure about 1630 there is a sudden change to the full-fledged baroque. The first stone was laid in 1591, and between that date and 1630 all the best chapels were built.

To avoid confusion it may be remarked that the numbers by which the chapels are designated

* Of Ferrari's work in the Fifth and Thirty-eighth Chapels Samuel Butler writes:—

"Two chapels contain very extensive frescoes by Gandenzio Ferrari, than which it is safe to say that no finer works of their kind have been preserved to us." *Ex Voto*, p. 73.

Another critic expresses himself thus:—

"Nor can we refuse the tribute of warmest admiration to a master who, when the schools of Rome and Florence were sinking into emptiness and bombast, preserved the fire of feeling for serious themes. What was dead in the neo-paganism of

the Renaissance—its frivolity and worldliness, corroding the very sources of belief in men who made of art a decoration for their sensuous existence—had not penetrated to those Lombard valleys where Ferrari and Luini worked. There the devotion of the Sacri Monti still maintained an intelligence between the people and the artist, far more fruitful of results to painting than the patronage of splendour-loving cardinals and nobles." Symonds, *Renaissance in Italy, The Fine Arts*, p. 488 sq.

† *Op. cit.*, p. 72.



Fig. 3. Orta: No. XX.

Photo: Lumley Cater.

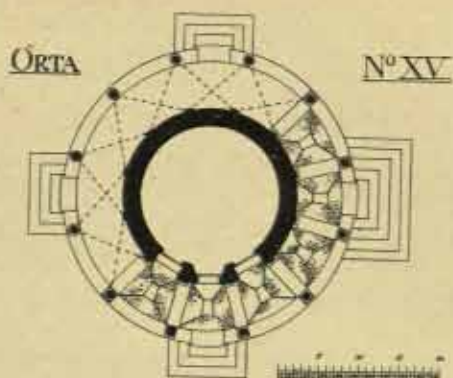


Fig. 4. Orta: Chapel of the Stigmata.

ORTA XI.

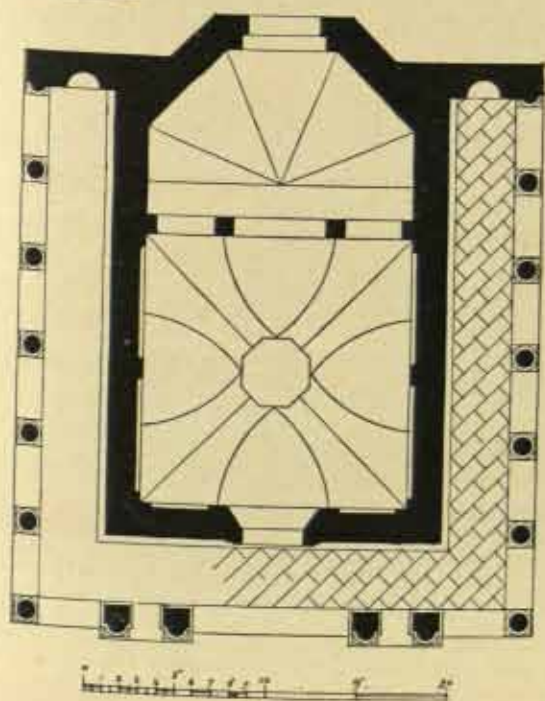


Fig. 5.



Photo: Lumley Cater.

Fig. 6. Orta No. XI: Madonna degli Angeli.

follow the chronological sequence of the events commemorated, and bear no relation to the order in which they were built. In fact, No. XX, the last of the series, in which the Canonisation of the Saint is depicted, was the earliest in point of date. The plan of this, the Cannobbiana group (XVIII-XX), the only example at Orta of a group of chapels, is interesting. A large square chamber thronged by cardinals and prelates is separated by a double range of triple arches (in the central opening of which the Pope sits enthroned) from a hexagonal chamber beyond, which forms the show space of No. XIX. This is approached by an external corridor at the side. The rapid fall of the ground permits of another chapel (XVIII) and corridor below the last. The architecture of both stair and entrance, if late (?1770) and debased, is simple and picturesque.

The façade of No. XX, though dating from the end of the sixteenth century, wears the flat and tentative characteristics of the early Bramantesque manner.

The highest point of the Sacro Monte is occupied, as at Varallo, by the circular Chapel of the Stigmata. The plan is noteworthy, not only for its simplicity and inevitableness, but as the earliest example among these chapels of a circular temple surrounded by a pórtico, and as the model for much subsequent design both here and at Varese. But it has further claim upon our attention. Once this type of plan had been brought to the notice of the artists of the Renaissance by the study of classical antiquity, it seemed to inspire many of their dreams. The pictorial value of the grouping of columns and arches, the ever-changing lights upon curved colonnades gleaming against their shadowy background, made an irresistible appeal. The difficulty was to find an excuse for such a building, some real use to which it could be put. For ordinary church building purposes a plan of this kind had been out of fashion for centuries and was now considered unpractical. Certainly we find circular chapels of late date built on to existing churches; but when an entire round church, as S. Carlo at Milan, was erected, the ambulatory must needs be included in the building as an internal aisle, and so the chief exterior charm is lost. Hence it was that these artists had to be content with pictorial representations of such designs, introducing them as architectural backgrounds to their compositions, as Raphael did in his famous *Sposalizio*. But outside pictures the only thing* of the kind which had been attempted hitherto was Bramante's *Tempietto*, erected in the cloisters of S. Pietro in Montorio, in 1502, to mark the spot of S. Peter's crucifixion. There the purpose was monumental rather than practical; the form therefore was unrestricted, and the designer free to adopt a version of the Roman circular temple, as suitable to both place and purpose, and, we may suppose, as the expression of this cherished idea.

But once again on this wooded hill by the lake of Orta came the opportunity. For sheltering and displaying groups of statuary the circular plan was as serviceable as any other, and, since the pilgrims had to stand outside, the external ambulatory was justified. The longed-for ideal could at last be adapted to practical needs, and with the opportunity came the man. Our wonder is that it should have been left for an obscure friar, whose name is unknown to fame, whose resources were limited, who was born out of time, to give us one of the purest, most refined and most original† buildings which the Italian Renaissance ever produced.

The years 1606-7 saw the erection of two chapels presenting the one a simple and the other a complex version of a single root idea. The latter is a chapel in the stricter sense of the term, containing an altar instead of the usual figures, and is dedicated to S. Mary of the Angels. It consists of a square nave separated from the little apsidal sanctuary by an iron grille of rich and elegant workmanship. The building is orientated, and the end towards the lake is designed to give a suggestion of nave and

* Perhaps I ought to add the *Madonna di Campagna*, begun by Sanmichele in 1559, in the village from which he took his name. The portico is wide and low in proportion to the central mass, to which it is entirely subordinate (Isabelle, *Edifices Circulaires*, pl. lxviii.). Shortly after the first stone was laid the great architect died, and how far his plans may have been followed in the completion of the building I do not know, but the general proportions do not seem happy, and there is a lack of

that spontaneity and inspiration which characterise the Orta version.

† Bramante's *Tempietto* is circular and surrounded by a colonnade, but there the resemblance to the Chapel of the Stigmata stops. His peristyle has neither arches nor vault, and carries a balustraded entablature. If it inspired anything at Orta it was the late *Cappella-non-Finita*, rather than this.



Photo: Lumley Cator.

Fig. 7. Orta: Well-house.



Photo: Lumley Cator.

Fig. 8. Varese: Entrance Arch.



Photo: Lumley Cator.

Fig. 9. Varese: No. 1.

aisles like the façade of a small church. But here the aisles are external, barrel-vaulted porticoes with pent roofs carried on Doric columns of unusually slender proportions. The illustration shows how cleverly the western portico is worked into an architectural composition the whole height of the building, terminating in the usual pediment flanked by trusses of subtle curvature, to mark the roofs of the aisles. We miss the simplicity and unconscious grace of the last chapel; the designer is more in evidence; but none the less it is a very delicate and thoughtful piece of work.

The companion chapel omits the side colonnade, but otherwise the plan is much the same as the last; a square ante-room with screen and three-sided apse. The roof is similarly prolonged over the portico, a single arch of large span, and about five feet in depth, resting on a pair of slight columns. These are set inwards from the line of the side walls sufficiently to stop the mouldings of their entablatures; and the way in which the brackets of the main cornice are duplicated so as to maintain the continuity of the eaves line is one of those simple devices to escape a difficulty, of which the Renaissance builders were almost as prolific as those of the Middle Ages.

About the year 1612 the well-house was begun. Standing in a dip of the ground close to the convent, it consists of a flattish pyramidal canopy (in reality a dome) carried on eight granite columns with capitals and bases of the usual dark serpentine. The plan of abaci and pedestals is a pentagon, a figure which makes it possible to dispense with pilaster breaks at the angles, and yet to preserve an approximate parallelism between their outer sides and the faces of the octagon. The inter-columniations are spanned by shallow granite architraves supporting an expanse of blank walling, which, when the eye lights upon the modest cornice tucked away under the eaves is seen to read as an inordinately high frieze. Thus, while use is made of an entire order, the disposition of the parts is such that the whole design presents an admirable combination of the monumental and the playful, in harmony with the surrounding buildings and yet possessing a distinct character of its own; altogether one of the most picturesque objects on the Sacro Monte.

The Italian mind seems to take a peculiar delight in the effect produced by a large area of wall surface, as little pierced by openings as may be, superimposed upon a row of slender supports. Monumental buildings of all periods, from the Doge's Palace to Juvara's work at Oropa, come to mind; but it is more especially exemplified in the ordinary street architecture of the arcaded towns, and is in fact one of the chief ingredients of their romantic charm.

Probably the architect felt that it would be hard to improve upon the Chapel of the Stigmata, and so allowed nearly thirty years to elapse before attempting another design upon similar lines. The eighth chapel is clearly a variant upon the same theme, based upon the octagon instead of the circle. But a change is felt to have taken place. Here for the first time piers are used instead of columns, sure evidence of baroque influence; the surrounding portico is a sort of continuous Palladio motive. It is possible that the upper storey was completed after Cleto's departure in 1630; it is not very happily conceived, and the use of stucco for the arches of the wall-arcade is indicative of the decline.

The so-called *Cappella-non-finita* belongs to the second half of the 18th century. It is a belvedere rather than a chapel, and though redolent of the coarse exaggerations of the period exhibits a certain rakish and dilapidated picturesqueness. A circular stair is seen coiling round in the dark spaces between huge attached brick columns. This is the æsthetic motive, and quite a worthy one; but evidences of debased feeling are not few; for instance, the niggardly use of dressed stone, which occurs only in the bases and balustrades. Even the capitals are of brick, still lacking the coating of modelled stucco they were designed to receive.

I do not think we shall be attributing to Cleto more than his due in claiming that he was a pioneer. He broke what was in effect new ground. Architecturally the experience gained at Varallo can have been of but little use to him. By the year 1591, when he started work at Orta, only about half of the chapels at Varallo had been completed. Of these the majority, though picturesque and admirable in their way, are the unpretending work of village masons. The first and thirteenth alone

can be described as architectural, and the former, though by an architect of repute, Alessi, is perhaps one of the least pleasing of all. Its only importance arises from its influence upon subsequent building design. The portico exhibits that combination of central arch with square-headed side openings which has come to be known, though its real originator was Brunelleschi in the Pazzi Chapel, as the Palladian motive. Certainly it was a favourite device with the later architects of Northern Italy, but we may perhaps attribute its frequent recurrence, both here and at Varese, to the lingering fame still attaching to Alessi's name and work.

The buildings of which the earlier sanctuaries consist seem to be strung together upon their connecting paths like a chaplet of beads allowed to fall into accidental folds and kinks. At Varese the thread is stretched to its full length, and the chapels follow one another in orderly progression by the side of a high road. But what a road! Imagine a broad-paved pilgrim's way about two miles in length, ascending in zigzags along a wooded ridge till it reaches a mediæval town perched on the summit of the *arête*. At every turn of the road stands a chapel, so placed as to show to the best advantage from below and to afford from the loggias provided by the thoughtful designer the best view-points for the enjoyment of the landscape.

In the early Middle Ages a fortress named Vittoria shared with a small church the site now occupied by S. Maria del Monte, as the town is called. Before the end of the eleventh century the church had three priests to serve it, from which we may conjecture that some special sanctity was attached to the image which it contained. The Visconti and Sforza families interested themselves in the sanctuary, and in the 14th century the old church was demolished and the present structure erected in its place.

Here, for the third time, the scheme of a *Sacro Monte* originated with the Franciscan order, the moving spirit being a Capuchin friar, Giovanni Battista Aggruggiari. The task of raising funds was attended with no little success. The cost of the finely-engineered road, the construction of which seems to have proceeded contemporaneously with that of the chapels, must have been enormous. The chapels themselves are on a more ambitious scale than had been attempted before, and stand on lofty substructures which jut, like bastions, from the retaining walls of the road.

The subjects illustrated are the Fifteen Mysteries of the Rosary, divided into the usual triad, Joyful, Sorrowful, and Glorious. The commencement of each group is marked by a triumphal arch and a fountain, while the church at the top containing the venerated image is, of course, the *raison d'être* and climax of the whole.

The design was entrusted to a local architect, Bernascone of Varese. With the possible exception of five late and unimportant chapels all are his work, and show their author to have been a man of no little imaginative and inventive power. Though begun only ten years after Orta, about the year 1606, they are quite a century later in feeling. One is at once struck by the difference in the colour of the buildings; the stone roofs and whitewashed walls of the mountain valleys have been exchanged for the red tiles and yellowish stucco of the plain. Granite is more sparingly employed, while the increased use of stucco imparts a sort of coarseness that smacks of a declining art.



Fig. 10. Varese: No. IV.

Photo: Lamley Color.



Fig. 11. Varese: No. V, Front View.

Photo: Lumley Cat. of.



Photo: Lumley Cat. of.

Fig. 12. Varese: No. V, Side View.

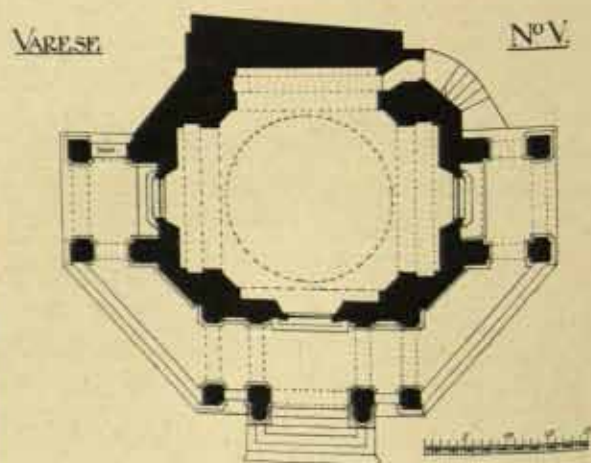


Fig. 13.

The entrance is by an imposing Doric arch, on approaching which the first sign of Bernascone's skilful planning is apparent. The fifth chapel, the most sumptuous of the series, shows itself framed in the exact middle of the opening. The road has to describe a double zigzag before reaching this chapel, so that the alignment must have been most carefully adjusted. The scheme, in fact, embraced the whole hillside; and it says much for his power of contrivance that the designer was able to make his architectural points without sacrificing the engineering obligation—viz., to make the road follow the line of least resistance. The same admirable foresight and feeling for effect meet one at every turn.

The Chapel of the Annunciation stands on the right as you enter. The plan strongly resembles that of the sixth and eleventh at Orta—an oblong chamber surrounded on three sides by a colonnaded portico. But here the resemblance ends. If the general appearance of the Madonna degli Angeli (Orta XI) is that of a small church, here it is that of a classic temple with pediment and peristyle. This is one of the few chapels for which Bernascone adopted the Ionic order, the greater elasticity of the Doric no doubt influencing his choice of that order for the rest. Expense and difficulty of transport forbade the use of large granite monoliths; consequently throughout these chapels, and in spite of their comparatively large scale, the design is accommodated to this limitation. Various expedients are employed to restrict the dimensions of the columns; in the present instance the requisite height is obtained by the use of pedestals and the desired cohesion and stability by coupling the columns and connecting the pedestals by a balustrade.

An important new departure was inaugurated by Bernascone. At Varallo and Orta the figure groups can only be seen from one point of view. Now for the first time additional openings are provided at the sides. In No. III they become regular transepts. This chapel has one in front and two on each side, the detail of which shows the nearest approach to refinement which we shall find. The architecture generally suffers from the indifference and worse of the carving. Bernascone seems to have recognised the impossibility of securing tolerable sculpture, and wisely limited himself to a minimum, a truss here, a festoon there, and sometimes a cherub's head in a tympanum; but these latter are often inconceivably gross and spiritless.

Passing by two unimportant chapels, the first turn in the road brings into view No. V, the Chapel of the Presentation, one of the finest of the series. It is designed like a domed church, on the plan of a Greek cross, but with transept and aisles turned as it were inside out to form an open ambulatory. The dome is covered with copper, now wearing a delicate patina, and the whole structure has a pallid, feminine air. Urns and obelisks punctuate the skyline, and, as they tell against the blue, help to build up that pyramidal form so advantageous in hill-side architecture. The road now turns abruptly to the left, its stepped paving traversed by a great fan of stone bands like the winders of a giant stair, up which the ox-waggons somehow manage to creak their way upward, and at the end of a short steep run exactly opposite the last chapel and in fine contrast therewith, rises the most important of them all. If there was something of feminine elegance about its *vis-à-vis* this is certainly a fine masculine piece of work. The largest of the chapels, it is also the most complicated in plan and design. The transeptal form is again adopted, this time grafted upon an octagon, and the transepts, instead of being connected by vaulted loggias, are merely joined up by balustrades. Here and elsewhere an excellent effect is produced by the simple device of tiling the cornices and string courses, so as to obtain a strong line of shadow without undue coarsening of the mouldings.

At the next angle of the road S. Maria del Monte comes startlingly into view upon the hill-top. "This," says Samuel Butler, "is a singularly beautiful spot. The chapels are worth coming a long way to see, but this view of the town is better still . . . From the moment of its breaking upon one on turning the corner one cannot keep one's eyes off it, . . . but without colour nothing can give an adequate notion of its extreme beauty." *

* *Alps and Sanctuaries*, p. 330.

Passing sundry chapels of minor importance the road continues to ascend rapidly along the side of a deep valley to the Xth or Crucifixion Chapel embedded in rocks and foliage by the next turning of the way. A triple arched portico, simple at first sight but replete with tricks of design, projects towards the road. Between the horns of a broken pediment rises a tall cross of delicate open ironwork, designed to silhouette itself against the whiteness of the wall behind. On no other chapel does the cross show so prominently, but here it has a special purport.

The ironwork generally is poor. The grilles in the view openings are loose and invertebrate, where they are not mere grids of upright bars; their dulness somewhat relieved by the exquisite patina of the bronze reels and spindles through which they are threaded.

The Chapel of the Ascension is interestingly planned, an elongated octagon within, and an ellipse without, to one end of which is attached an imposing baroque portico. The back, turned towards the plain, is surrounded by an arcaded ambulatory which commands a superb view. From whatever point of view his designs were to be approached, Bernascone never failed to calculate his effects, and so if this loggia be a good place to look out of, it is also good to look up at, as when the sun shines the slender columns make an interesting *niello* of light on dark.

VARESE N° XIII

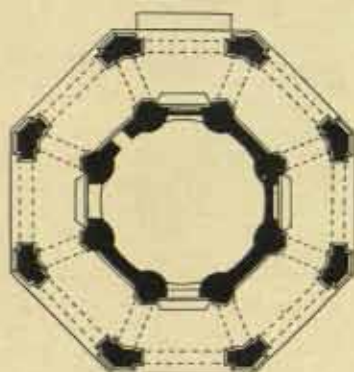


Fig. 14.

The last of this Master's chapels shows how the difficulties of an octagon, surrounded by an arcaded portico, may be faced and overcome without any apparent strain or effort. How rudely human agency can avail to dissipate the poetry and glamour of the wonderful landscape is to be readily appreciated at Varese. It is not, however, Bernascone's chapels that operate thus, but the activities of the speculating builder, who has his eye upon every eligible site along the pilgrims' way, and occupies it as rapidly as may be with Swiss chalets and new-art villinos.

The great establishment in the mountains above Biella known as the Sanctuary of Oropa is the growth of sixteen centuries, and a truly remarkable growth it is. The nucleus about which it has gradually formed is an image of the Madonna, brought from Palestine in the fourth century by the great bishop of Vercelli, S. Eusebius, and by him concealed for safety from Arian outrage beneath a boulder on the edge of the Oropa torrent (A.D. 369). Controlled successively by Benedictines, Cistercians, and the Chapter of Biella, the affairs of the institution, ever since the consecration of the present church in 1600, have been administered by a mixed lay and clerical Committee of management.

The buildings lie on sloping ground at the head of a short, steep valley, some 4,000 feet above sea level. A grass hill to the left of the main road just below the hospice is dotted with black and white chapels, containing the usual terra-cotta groups.* It is known that in 1659 these were 25 in number, and in 1681, 26; but since there are now no more than 18, most of them built about the year 1690, it may be inferred that the earlier ones were of quite modest dimensions, and were suffered to fall into decay or were pulled down to make room for those now standing.

The buildings of the hospice are planned round an immense quadrangle, two sides being prolonged southwards as wings at either end of the entrance façade. The church, an unpretentious structure, most inconveniently small for the vast concourse of pilgrims, juts out from the east side of the court. This is surrounded by a cloister walk, of two storeys for some part of its circuit, and presents an unusual combination of the stately and the picturesque. Perhaps I am wrong to call the combination a rare

* The artists employed were Sala and Brenno of Locarno, who lived about the middle of the seventeenth century, and

Pietro Giuseppe Aureggio Termini of Biella, who continued the work during the early years of the succeeding century.

one, at all events at this date, for it was the greatest achievement of the baroque to have reconciled these opposite qualities—viz., classic order and restraint with romantic vision and impulsiveness.*

Two architects were connected with the work, Negro di Pralungo, who was engaged upon the quadrangle about the same time that the erection of the church was proceeding, and the more famous Filippo Juvara, who completed the scheme in 1720, by the design of the southern or entrance front. This is approached from the forecourt by a stair of noble proportions, and is chiefly noteworthy for the fine treatment of the ground storey, which is entirely open from front to back, so as to form a loggia the whole depth of the block. Owing to the geological formation of the mountains which enclose the valley to the north, Oropa is noted for the heaviest rainfall in Italy, so that this fine feature is justified, if justification be needed, on the strictest utilitarian grounds.

The second in importance of the great sanctuaries in the mountains of Biella is Graglia. This



Fig. 15. Oropa: Entrance Front.

Photo: Lenzler-Catze.

owes its origin to a parish priest of the early seventeenth century named Velotti, who schemed to convert the hill of S. Carlo into a Calvary in imitation of Caimi's at Varallo; but though a hospice and church on a considerable scale were erected, the Sacro Monte was conceived on too ambitious lines to reach completion; and what there was of it was ruined during the French occupation.

The church has an unfinished brick façade, that presents a far better appearance without than with its intended skin of stucco. The same may be noticed in many church fronts of this district, notably at Valle Superiore Mosso, and Ponderano; the latter being a very cheerful and picturesque object.

As I have hinted during the course of my paper, the interest attaching to these places is by no means solely architectural. The scenery, the people, pilgrimages, festas, are sufficiently attractive to reward any one to whom the architecture might be disappointing. But I hope the experience of the old gentle-

* Scott, *Architecture of Humanism*, p. 86.

man met by Samuel Butler is unique. "We happened by good luck to be at the Sacro Monte during one of the great feste of the year, and saw, I am afraid to say how many, thousands of pilgrims go up and down. They were admirably behaved and not one of them tipsy. There was an old English gentleman at the Hotel Riposo, who told us that there had been another such festa not many weeks previously, and that he had seen one drunken man there—an Englishman—who kept abusing all he saw and crying out 'Manchester's the place for me!'"

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DISCUSSION.

MR. ALFRED W. S. CROSS, M.A. Cantab., *Vice-President*, in the Chair.

MR. PAUL WATERHOUSE [F.]: I am led to think the chief reason for which I have been called upon to express your thanks for this Paper must be that I was born in that place, Manchester, which was mentioned in the lecturer's last sentence. There is, of course, no place like it in my affections—except the Sacred Mountains of which you have heard to-night! I confess that I feel it a difficult task to convey by way of speech my appreciation of what Mr. Eden has told us. It is more than thirty years since I first visited Orta. I have twice been there, and on many days have very much enjoyed myself in the shady woods at the summit. If I have not physically enjoyed the very unshady walk which takes one to the crown of Varese I have at least had happy hours among its buildings, and Varallo is to me a haunt of recurring memory. All those three places are spots to which one would willingly go back as often as one can. Mr. Eden's Paper has been most illuminating and most charming. He explained at the beginning how he was called upon to read a Paper on Ecclesiastical Architecture in North Italy. He imagined, no doubt, that he was requested to read a purely architectural address; but wisely, very wisely I think, he came to the conclusion that that was the wrong thing to do. He has given us much more than an architectural treatise, for he has described buildings which defy a purely architectural description, being, as they are, so full of not only architectural but also religious sentiment; so full, indeed, of sentiment that they cannot be described properly except by a man who has an enthusiasm for the inner feeling inspiring these tender examples of Renaissance art. I have been tempted before now to write something myself about these sacred mountains, but, fortunately, I refrained from doing so, because it has now been so excellently done by Mr. Eden. He is already a recognised authority on this subject. All he has to say upon it is worth hearing or reading, because, I believe, he has given

more architectural study to these sanctuaries than has anybody else. But though I have not written *about* these mountains, I have written *on* one of them, for I once wrote, on the very slopes of Varese, an article concerning the Euston Road. I had left England with a conscience sore with the memory of duties undone, or underdone, and when I got out to Italy, the heaviest regret was an unwritten article on the Euston Road. In a pleasant patch of shade on that sunbaked mountain I started my article, and began it with a courageous reference to the Plain of Lombardy lying before my eyes. This was, as I thought, an appropriate opening. When in due course the article was printed, the editor had removed, as an unnecessary encumbrance, the whole of that bit of Italian landscape! There is something, it seems to me, particularly touching about the alliance of the Franciscan Order with these graceful little developments of Renaissance architecture: touching in the thought that the "Little Poor Man's" Order should set such store by the graces of architecture, and while denying itself all luxuries should have been willing to lavish the luxury of refined design upon these pilgrim shrines. The whole spirit of the Order seems, by a welcome paradox, to breathe in these delicate pieces of work, though one might be tempted to think them contrary to the Order's rule of austerity. Nowhere more than at Orta can one realise the promptings of this message in stone which the Franciscan Brotherhood offered to the faithful. Much has been written about the meaning of the Renaissance to the world, and the suggestion is frequently made that it was an age of humanism, in the sense that it was man's coming into his own as against the Church. I think no greater nonsense was ever written. Every student of the Renaissance realises not merely that common gratitude should make architecture a faithful servant and ally of the Church (for the Church showered such benefits on her in the way of opportunities), but also

that the entire genius of Renaissance art—painting, sculpture, and architecture—was, time and again, willingly consecrated to the purposes of religion. And nowhere do we see that better than in these holy mountains, in which these isolated gems of architecture are strung together like beads on a rosary, with no purpose but a religious purpose. And nobody should be tempted to think that though some of these buildings are very simple in their design—some, as we have noticed, are little more than cottages with a little splendour of architecture fashioned upon them, bare walls and a few columns—no one should think from that that they are not full of intimate architectural thought. Indeed, the modern architect who is engaged on the design of a circular or a polygonal *tempietto* could not do better than go to one of these mountains to educate himself in the various ways in which polygonal and circular buildings may be handled. One might there fill whole notebooks with studies of the craft of devising peristyles and porticos, and of their attachment to cells of ever variant forms. I was particularly struck on my last visit to Orta by the design of the well to which Mr. Eden alluded. Any one of us who may have struggled with the attachment of an abacus to a polygonal architrave knows what faults he can commit. This particular device of an irregular pentagon gets over the difficulty in an extraordinary way; it is a trick which none of us could have tried for ourselves, but it is one which having seen one gladly adopts. When I first caught sight of it I could not realise by what magic the problem was solved, but on putting it down in plan I saw how simple it was. Mr. Eden alluded to the Church of Santa Maria delle Grazie, which stands below the hill at Varallo. I think there is only one other church in which the same treatment has been adopted for the display of a large painting at the east end of the nave. That other is at Lugano where a similar thing was done—and I think a little better done. In both these churches the nave is apparently closed at the end by a gigantic wall, which is covered, practically from floor to ceiling, by a painting or series of paintings. In one case, Varallo, the subjects are painted in separate panels, and in the other case the progression of subjects is woven together so as to form a sort of scenic procession. These painted walls serve the purpose of a chancel screen of an unusually solid form, and the sights and sounds of the Mass only reach the congregation through low arches at the base of the great picture. One would think it was an unsuccessful treatment for a church, but there is, in fact, a nobility about it, and I was very much struck when hearing Mass in the church at Varallo at the gain rather than the loss of religious dignity. Then the trees at Orta! They have been mentioned as having grown up very much since the buildings and groves were first laid out. No doubt that is the case, and possibly the trees have overgrown the original intentions of the designers; but nothing can exceed the charm of this consecrated forest; and the mystery of the pilgrim road from temple to temple is admirably

preserved by the trees. One loses all prosaic sense of plan as one wanders, led by guide posts, from one shrine to the next. Many of the temples are hidden by the thick growth. I am sure we have to thank Mr. Eden very heartily for having given us so liberally of his knowledge; and his explanatory pictures have been excellent. Most of all do I thank him for having led us not merely into the architectural technicalities of this group of buildings, but, as far as may be, into the spirit and intent of the men who built them.

MR. EDWARD WARREN, F.S.A. [F.]: My friend Mr. Waterhouse has said that it is difficult to add anything to a subject which has been so admirably treated by Mr. Eden. If Mr. Waterhouse found it difficult to follow Mr. Eden because of his treatment of the subject, consider, Ladies and Gentlemen, how difficult it is for me to follow Mr. Waterhouse, who has left so little for me to say. Having, however, read and followed Mr. Eden's Paper with the greatest possible attention and interest, and having made notes, mental and otherwise, upon it, I am very glad to second the vote of thanks, and in the most hearty manner possible. We owe Mr. Eden a debt of gratitude for a charming hour and a charming disquisition charmingly illustrated. I have had the advantage of seeing Varallo and Orta, but not Varese, in which, however, I have been extremely interested to-night. I was struck at Orta with the confusion of plan produced by the immense growth of chestnut trees and great bushes of magnolia subsequent to the buildings, and probably entirely foreign to the intention of the layer-out. But that gives additional charm. They are, these dainty semi-secular buildings—for they are in effect secular rather than ecclesiastical—embowered in broad-leaved chestnuts and glittering magnolias on the splendid hillside, with the lovely little town and the beautiful lake below, one of the most fascinating sights I know. It seemed to me at Orta that the material there, a coarse-grained, dark-coloured granite, produces a robustness of detail which resembles in many respects some of the Renaissance work in Brittany, through the exigencies of the hard intractable coarse-grained stone, particularly in the staircases and balustrades of the ramped parapets, which are powerful and picturesque. I remember making careful studies of them, because they struck me as being a frank and powerful evolution from the necessities of the material. At Varallo, where there is a tremendous wealth not only of chapel and temple architecture—I think there are fifty chapels there, whereas at Orta there are twenty-two or so—at Varallo the effect is less concentrated, but there is more of it. And these amazing groups of coloured sculpture and terra-cotta are some of them of a high order of merit and excellence, while others are almost comical in their naïve grotesqueness, yet even these are placed in such a manner that, in the relatively dim light of the chapels and as seen through the screens, they produce a startlingly real effect, unlike anything I have seen. And although some of the

grouped display is coarse and tawdry, and most is intensely theatrical—though that is not meant as a term of opprobrium, because the theatre derives from the Church, and the Church goes back to the theatre—it is theatrical in the real sense in being scenically effective. It was a direct attempt to instruct, to impress, to interest people who could not read or write. And many of the Italian peasantry who flock to these sacred mountains to-day are not much better educated, and to them the appeal still seems to be forcible. And that, as Mr. Eden so well said, is the excuse for many things. One has always to remember, when one sets out to criticise them, that they serve the very end for which they were intended; and they serve their end to the ordinary and more restricted tourist, or the student of architecture, in that they produce an appeal of a kind which is very singular and definite. When you have once seen them it is very difficult to forget the impression. There is a most dignified and impressive effect in the Crucifixion Chapel: the great mass of figures, combined with the wall-painting, is of singular conventional realism or realistic convention; for there is much realism, and the figures are wonderfully good, considered as a whole. I think that painters and sculptors may gather valuable hints from the skilful composition. For the rest, at Varallo and at Orta there is not much serious architecture, but there is in both places, particularly at Orta, an opportunity for the study of polygonal and circular and elliptical forms of buildings, and the adaptation of such forms to the very irregular and remarkable sites. The sudden little mounds, ledges, and plateaux, approached round corners or reached by steep inclines or zig-zags, these altogether will repay long and very careful study, because the lay-out is of an unexpected and singular order, accepting as it does the accidents of the hills and dales and jutting rocks. The design seems to be worked in and worked out in a manner which is immensely skilful and extraordinary. The effect of those inclined roads which Mr. Eden described, and which are almost staircases, with large stone ribs across them, and coarsely cut ramps at the side, with heavy balustrades and the overhanging trees, is admirable; so admirable that one is tempted to wish that in more northern countries the opportunities were inevitable for using such. It is marvellous that wheeled vehicles can get up them, for when carrying one's sketching things, on a warm autumn day, one finds it quite enough to walk up. I shall not detain you further with my tourist impressions, but I should like to say that one should keep in mind, when considering such groups of buildings, designed for definite purposes, as are those of the *sacri monti* of Varallo, that although, of course, they are in conception devotional—for Caimo was a religious enthusiast as well as a man of genius and immense energy—they owe their perpetuation not only to that. They were adopted, approved, and carried on in a mixed religious and secular spirit. For we must remember that in such buildings, just as in the great cathedrals, such as Can-

terbury, Rheims, Santiago, or any great pilgrim resort, they became, of necessity, a great mine of industry and business, and such establishments brought an enormous access of wealth to the towns that possessed them. There was always the tendency, in a town favoured by a great religious group of buildings, to make the most of it, to run it for what it was worth, and go one better than rival towns. And one feels a little of that element in considering the sculpture of the groups, both at Varallo and at Orta. Unless, indeed, you include that element in the consideration of the great mediæval buildings of Europe, you do not arrive at a just attitude, or form a right computation of the effects you find. Once again I say that I second, in the most hearty manner, the vote of thanks which Mr. Waterhouse has proposed to Mr. Eden.

MR. WALTER TAPPER [F.]: It is difficult for one to say much with advantage after hearing Mr. Eden's paper together with Mr. Waterhouse's and Mr. Warren's remarks, though as a matter of fact they do not by any means exhaust the subject. I had the pleasure of visiting these places with Mr. Eden at different times, and very delightful excursions they were, for in addition to the opportunity of seeing these interesting buildings there are most enjoyable walks to be had round the countryside. In a paper such as this, time does not permit the author to say much about the detail which these chapels possess. As could be seen from the photographs, there is indeed much of this, such as the many varied wooden screens in the Varallo Chapels, one especially good one being that with the slanting cove overhead, pierced, so enabling the pilgrims to view the ceiling of this particular chapel. The curved trusses to this screen are excellent. At Orta we have the iron screens. Some of these are distinctly good specimens of Italian work, though personally I consider the Spanish ironwork finer. Some of the doors to the chapels are worth careful study, having quite delightful bits of carving about them and good fastenings. Their colour, too, is worth noting. The paving of the colonnades is laid with bands of stone and different-coloured pebbles, and is very attractive. The chapels themselves are excellent examples of the right use of few materials, so that in these days when much simple work has to be done these buildings are full of good ideas and cribs well worth acceptance. Photographs, unfortunately, convey little idea of colour, so it is almost impossible from such to realise the beauty of these chapels with their surroundings. Those at Orta are in the main a toned white set amongst the varied green and russet-coloured chestnut groves, or, as at Varese, outlined against the Italian sky—the effect one never forgets. That which we designated the "Queen" at Varese, with its copper dome, I remember especially. The plans, as Mr. Eden has told us, vary little, and yet so distinctive are they architecturally that this is difficult to realise. There are so many variations on the same theme. I remember Mr. Eden asking me which of these *sacri monti* I should prefer re-visiting. I an-

swered all, for all have their own characteristics, which one can see again and again with advantage. I am very glad to have been here this evening and to support the vote of thanks to Mr. Eden.

Mr. WARREN: May I ask Mr. Eden a question? I seem to remember that at Varallo—though I am not certain whether it was not at Orta—many of the figures in the groups were clothed in actual draperies, not merely painted. And I think some of the figures at Varallo had actual hair. Perhaps Mr. Eden will deal with this in his reply.

Mr. CURTIS GREEN [P.]: I am unprepared to say anything, but am glad to support this vote of thanks. I admire Mr. Eden's work, and I always listen to what he has to say. I think his one of the most interesting minds in architecture. I have been to Orta; it is the only one of the places which have been described this evening that I have been to, but wherever you go the whole countryside is rich in these delightful little mountain sanctuaries. I liked his casual remark—one of those remarks you wait for and pounce upon—of the Baroque being a combination of the romance of the Middle Age with the flavour of antiquity. It seems to me that these ignorant and primitive people were doing work in a perfectly natural and right way, which resulted in a very plea-

sant and agreeable art. I cannot agree with Mr. Tapper that you want to go to a place like Orta for "cribs." We need to come back from such a visit fresh to our own problems, and do our own work in the right way.

Mr. EDEN: I think there is only one question for me to reply to, and that was raised by Mr. Warren, namely, about the figures at Varallo. There are three kinds of figures. The earliest ones came from the Franciscan workshops, and were timber. Those which belonged to the Ferrari period were of terra-cotta. The later ones were of stucco. The use of many of the figures was changed in subsequent years; some of the timber figures were mixed up with the terra-cotta figures, and in those cases they are draped with linen which has been dipped in gesso and modelled, so as to give a different designation to the figure. Some of the figures are unrecognisable. For instance, the original figure of Eve from the Chapel of the Fall has been converted into a Roman soldier; and in the Annunciation the figures are clothed with this linen gesso, and coloured, and have had new heads added to them. In many cases flax is used for hair. I do not think any figures are draped in any other way than by this modelled drapery, though the hangings, testas, and canopies are real material.



Photo: Lumsley Carter.

Fig. 16. Orta: Church from Loggia.

CORRESPONDENCE.

The Temple of Artemis at Ephesus.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—I have carefully read Mr. Henderson's remarks. He assumes that I am responsible for drawings and figures which are not mine. To argue the whole question over again would be to repeat most of what I have written on this subject; as this is impossible, I may say that I see no reason to modify my views. And now I put down in tabular form some of the evidence on the two main points only:

A. *Evidence regarding a difference between the front and back of the Temple.*

1. The temple was at some distance from the city, towards which its façade was turned; the other end of the temple was thus its back.

2. The whole work was of great scale, and the façade had extraordinarily wide columniations; the enormous bearing of the central lintel was unequalled in Greek architecture, and the doubt naturally arises whether there can have been more than one of these.

3. Pliny, indeed, tells a story of a colossal lintel at this temple, the fixing of which nearly frightened the architect to death. Few of these tales are actually true, but the point of the story would be gone if such lintels were so cheap that there were several of them; a second one would halve the effect of the tale.

4. Square-sculptured pedestals were discovered at the façade, but none were found at the back of the temple; this suggests that there was some difference between the two end elevations.

5. Constructively, the pedestals can be explained as providing extra strength for the extra wide columniations.

6. Fergusson noticed that the very wide columniations of the octastyle façade would just allow of nine columns at normal intervals at the back of the temple, and he suggested that this would be the best solution of the problem.

7. Quite recently it has been found that the great Ionic temple of Samos, which was in very much a companion work to the temple of Ephesus, was in fact so planned and built.

B. *The following are points of evidence that the sculptured drums were not set above the sculptured pedestals.*

1. Dr. Murray claimed that they must have been because the sculptured drum fitted a circular mark on the pedestals. As the bottom drums of the plain columns are of the same size, the reason given was no reason at all. He saw, however, that the normal supposition would be that the sculptured drums were at the bottom of the columns, and he so placed them in the portico. For the front row only he hit on a complicated arrangement of putting the pedestals on a lower plane, so that they were added below the level of the ordinary columns. This scheme has been shown to be wrong. Mr. Henderson sees that it is impossible, but he seeks to carry the doubling of pedestals

and sculptured drums on into another more extravagant design by raising all the sculptured drums in the pronaos, and I suppose in the posticum as well, on sculptured pedestals. It is more reasonable to suppose that plain columns were set on the sculptured pedestals.

2. I set no store by arguments as to taste (our taste), but in this case the types of sculpture are so different from one another that their immediate association (as Rayet pointed out) is difficult to believe in.

3. Each pedestal has 24 feet "run" of sculpture, and each drum has 20 feet. It is said that there were 36 sculptured columns. It is not so probable that there was 1,580 feet of figure sculpture 6 feet high as that there was half of it. That is, the pedestals and drums were separated.

4. The pedestals are the same height as the sculptured drums, and therefore probably ranged with them.

5. The roll and hollow moulding at the bottom of the sculptured drum was similar in size and section to the profile at the bottom of a plain column, and therefore they probably ranged with one another. (I should put full bases under the sculptured drums as to the plain columns; the sculptured pedestals I should set on plain blocks.)

6. As said before in regard to a probable difference between the front and back of this great temple, the pedestals constructively considered may be explained as special enlargements of bearing surface for the chief weight-carrying columns of the façade; that is, for the front rank only.

7. The design of the sculptured band on the columns and pedestals just above the ground level may be explained as a traditional development of the old Asia Minor custom of having a sculptured dado. Thus looked on, it ceases to be a mere whim of "design."

8. According to the evidence of the "finds" there were pedestals only at the façade, but there were sculptured drums at the back of the temple as well. It would follow, if the sculptured drums of the façade were raised on pedestals, that the similar drums of the back of the temple were fixed at an entirely different level.

I should have been delighted to discuss more fully these questions with Mr. Henderson, but just now, in war time, I don't seem able to do so. I hope, therefore, he will forgive me for falling back on a mere schedule. It may be worth while to record this outline of my views.

W. R. LETHABY [F.].

Books received.

The New Handbook to York Minster. By George Benson [A.]. Illustrated with 12 Collotypes and 12 Plans. 5th edit. [Cooper & Swann, Micklegate, York.]
 Victoria and Albert Museum: Department of Woodwork. The Panelled Rooms: I., The Bromley Room; II., The Clifford's Inn Room. In separate volumes, 6d. each.
 Annual Report on Architectural Work in India for the year 1913-1914. By the Consulting Architect to the Government of India.



9 CONDUIT STREET, LONDON, W., 6th February 1915.

CHRONICLE.

The Revised Scale of Charges.

The remaining clauses (10-19) of the draft revised Schedule of Professional Charges were discussed at the General Meeting of the 1st inst., and, some slight amendments having been made, the meeting gave its sanction to the document as a whole and authorised the Council when the times are more propitious to publish the new Scale as an Institute Paper and to withdraw the existing Schedule from circulation.

The question of revising the present Schedule was raised five years ago, at the General Meeting of 29th November 1909, when a motion of Mr. Edward Greenop's resulted in the passing of the following resolution: "That, in view of the inadequacy, ambiguities, and deficiencies of the publication issued by the Institute entitled 'The Professional Practice as to the Charges of Architects,' the Council be requested to appoint a Special Committee to prepare a circular letter for issue to all Fellows and Associates inviting statements of any difficulties they may have met with in its use and suggestions for amendments: to take such other steps as the Committee may think fit, and to consider the whole question and report thereon at an early date." The matter was referred to the Practice Standing Committee, and a circular was issued to members of the General Body inviting replies to the following questions: "I. Have you experienced any special difficulties, questions, or disadvantages in adopting the Schedule of Charges as at present sanctioned and published by the Royal Institute? II. Please state any amendments or modifications which you may consider advisable in the Schedule referred to." A large number of communications were received in reply, and these were carefully considered and reported upon by a sub-committee of the Practice Committee, consisting of Mr. W. H. Atkin-Berry, *Chairman*, Mr. W. Henry White, Mr. George Hubbard, Mr. Ernest Flint, and Mr. Edward Greenop, *Hon. Secretary*. The Practice Committee's Annual Report for 1912 mentions a special vote of thanks accorded to these gentlemen for the exceptional amount of time and trouble they had bestowed upon the work. A new Schedule, drawn up by this sub-committee, was submitted to the Council early in the Session 1911-12, and

the sub-committee was afterwards taken into consultation by the Committee of Council to whom the matter was referred. Under this Committee, who had the advantage of the advice of the Institute solicitors, the Revised Schedule assumed the shape in which it was submitted to the General Body in 1913. The Council then in office acknowledged their special indebtedness to Mr. Stanley Peach for the invaluable assistance he had rendered at this stage of the work. The document has since been thoroughly threshed out by the Institute in general meeting, no fewer than six sittings—those of the 19th May, 2nd and 16th June 1913, 12th January and 9th March 1914, and 1st February 1915—having been devoted to the subject.

Mr. Reginald Blomfield, R.A., in introducing the draft Revised Schedule at the first of these meetings, referred to the fears that had been expressed that the document was to be of a penalising and coercive character. On the contrary, said Mr. Blomfield, it was to be looked upon as a permissive and advisory document. The cases in which the Schedule must be strictly observed were those, of which there had been unfortunate instances, where local authorities had invited tenders from architects with a view to undercut rates. In such cases for anybody to undercut rates was to commit a breach of professional etiquette. Apart from those cases every member could use his own discretion and judgment. He hoped that this statement—which represented, he believed, the unanimous view of the Council—would remove a good deal of misunderstanding on the matter.

The Chairman of last Monday's meeting, Mr. George Hubbard, F.S.A., replying to the question when the new Schedule would come into force, stated that it would not be immediately, as the present was not a propitious moment to lay a new scale of charges before the public. The document would have to be submitted first to the Institute solicitors, and would then be printed in readiness for publication as soon as the propitious moment arrived.

Mr. Herbert Shepherd, in a few words at the close of the meeting, referred to the Institute's indebtedness to the individual members who had been concerned in the preparation of the new Schedule. There were the members of the Practice Committee (whose names are given above), and particularly Mr. Stanley Peach, who, he observed, had shown a wonderful grasp of the innumerable details of this intricate subject, and to whose ability and foresight they owed the completeness of the new Scale. He moved that a very hearty vote of thanks be passed to the members who had rendered such able service on behalf of the Institute and of the profession at large.—The motion was agreed to by acclamation.

Bills of Quantities: Attendances on Sub-Contractors.

By direction of the Council the Memorandum headed "Attendances on Sub-Contractors" which was issued recently by the Surveyors' Institution, is published here for the information of members,

together with a covering letter from the Secretary of that body:

To the Secretary R.I.B.A.—

DEAR SIR,—A deputation from the Institute of Builders, recently received here, drew special attention to the obstacle against accurate estimating imposed by the practice of leaving, in Bill of Quantities, the cutting away and attendance on sub-contractors to be priced in a lump sum by the principal contractor. In modern buildings the hot-water work, sanitary work, and electric wiring is usually considerable, often, indeed, very extensive; and this class of work, too, is frequently delayed until the building is in an advanced stage, necessitating a good deal of work which might be avoided were the requirements known earlier.

The Council have therefore issued the subjoined notice to those members of the Institution who practise in Quantities. But as their ability to deal with the subject of complaint must depend largely upon the information placed at their disposal by the architects, I am desirous to express a hope that your Council may co-operate with them in the matter. Accurate estimating is to the advantage equally of the building owner and of the contractor, and my Council feel sure that anything which can be done to secure an improvement in that respect will receive the ready support of architects.—Believe me, yours faithfully,

A. GODDARD, *Secretary.*

Memorandum issued by the Surveyors' Institution.

ATTENDANCES ON SUB-CONTRACTORS.

The Institute of Builders having approached the Council of the Institution with reference to the method of dealing in Bills of Quantities with Attendances upon Sub-Contractors, and having requested that a deputation should be received to enable them to lay their views upon the matter before the Council, a representative deputation was received by the Quantity Surveyors' Committee on behalf of the Council, and the subject was fully discussed.

The Quantity Surveyors' Committee are satisfied that the Builders are not without some ground for complaint, and that the importance of dealing in adequate detail with "attendances" is not fully realised by all who practise as Quantity Surveyors.

They are of opinion that the matter should be dealt with more precisely than is frequently the case in preparing Bills of Quantities, in order to obviate the friction which often arises between the parties to a contract owing to a misunderstanding as to the liabilities imposed respectively upon the Building Owner, the General Contractor, and the Sub-Contractor. The following notes and suggestions are therefore recommended for the consideration of Members of the Institution.

The word "attendance" does not comprise any works of construction (e.g., pipe trenches, castings, &c.), but it does comprise all cutting away and making good after, receiving materials and providing storage space for them, providing water, allowing the use of erected scaffolding and fixed plant. If so provided in the contract it should also be taken to cover the payment of accounts as certified by the architect, before their inclusion in the general certificates.

The particular matters dealt with by the Builders' Deputation were:

- (i.) Attendance on Heating Engineers;
- (ii.) Attendance on Hot-water Engineers;
- (iii.) Attendance upon Electricians.

In dealing with attendance on these or other special trades-

men, there should be given an account as detailed, clear, and succinct as possible, of the work which it is proposed the Sub-Contractor shall do, stating precisely what services will have to be rendered to him.

When the Sub-Contract is of minor importance, all the needs of the case will be met by leaving the estimator, after inspecting the drawings, to assess the value of the work to be done in this connection and set it down against the descriptive item.

When the Sub-Contract is important, the same account of the work to be done should be given, and, in addition, an indication of the extent of the attendance, stating:

- (A) The number of holes for pipes, &c.;
- (B) The number of pipe brackets, &c., to be fixed.
- (C) The chases for pipes, &c.;
- (D) The number of the points for electric lighting, electric bells, radiators, sanitary fittings, &c.

A general item to the following effect should also be inserted:

"In so far as is possible an indication has been given of the specific attendance required, but the Contractor is to allow here for any further expense entailed in waiting upon special tradesmen, or for the disturbance of his work caused by them, and for giving them all facilities for the execution of their work."

Care should be taken that the nature of the attendance which will be afforded them is clearly set out in the Sub-Contractors' contracts.

It is considered inadvisable in ordinary circumstances to make money provisions to be expended in "Day-work."

The Royal Gold Medal 1915.

At the General Meeting last Monday the Chairman, Mr. George Hubbard, F.S.A., *Vice-President*, announced that the Council proposed to submit to His Majesty the King the name of the Canadian architect, Mr. Frank Darling, as a fit recipient of the Royal Gold Medal for the current year. Mr. Darling is of the firm of Messrs. Darling & Pearson, of Toronto, examples of whose work were shown by Mr. F. S. Baker [F.] among the slides illustrating his Paper on "Canadian Architecture" read at the Institute two years ago. Some of the illustrations accompany the text of the Paper in the JOURNAL for 25th January 1913.

Nominations for Membership.

At the same Meeting the following gentlemen were recommended for election:—As *Associate*, Mr. James MacGregor [Student 1910]; as *Honorary Associate*, Mr. Walter Peacock, Treasurer to the Prince of Wales.

The Ancient Monuments (Churches) Committee and the Society for the Protection of Ancient Buildings.

We have received from the Secretary of the Society for the Protection of Ancient Buildings a copy of a letter which he has addressed to the Ancient Monuments (Churches) Committee in reply to the strictures passed on his Society in the Committee's recently published Report to the Archbishops of Canterbury and York (summarized in the JOURNAL R.I.B.A. for 19th December last). The Committee, consisting of Sir Lewis Dibdin, as the Dean of the Arches, and other Diocesan Chancellors, had been requested by the Arch-

bishops to ascertain what steps are taken on the issue of faculties in the different dioceses to secure due protection, both on archaeological and artistic grounds, for church fabrics which have to undergo repair or in which changes are being made. Among the matters considered by the Committee was (1) a Memorial presented in July 1913 to the Archbishops by a deputation from the Society for the Protection of Ancient Buildings, together with (2) a List of forty churches where, it was stated, destructive work had been carried out under a faculty since 1896. Referring to the Committee's criticism of these two documents and of the principles underlying them, the Society asks:—

Is the Ancient Monuments Committee aware that the papers prepared by the Society for the Protection of Ancient Buildings—namely, the "Notes and List," to which official reference is made in your Report—were drawn up as a memorandum for use by the deputation and the Archbishops on the day when their Graces received the representatives of this Society, and were only of the nature of an index to be supplemented on that occasion by oral explanations with the help of correspondence and large volumes of photographs taken to Lambeth for the purpose? Even if your Committee was not fully informed of these facts, the "Notes and List" show obviously on the face of them that they were not complete nor "formal" documents. Your Committee noticed this, but, instead of inferring that an index was intended as an index, expressed regret that "our aim had not found more decorous expression." This perverse misreading underlies the whole of your Committee's criticism of our list.

My Committee [i.e. the Committee of the Society for the Protection of Ancient Buildings] could have wished therefore that, before coming to definite conclusions on the cases mentioned so briefly in "the list of forty churches," further evidence for the grounds which led it to mention these cases had been asked from it. The Ancient Monuments Committee evidently realised the brevity with which these cases were stated, and must have known the Society would not have referred to these cases if the note, which accompanied each, had been all that it had before it on which to form an opinion. My Committee feels that it has been unfairly used on these grounds, though it must be understood that it considers this of little importance in comparison with the excellence of the work which the Ancient Monuments Committee has undertaken and already accomplished.

As regards the cases erroneously included in the "List" as having been carried out under a faculty, my Committee regrets that it was misinformed. It had not thought it possible that in 21 out of 40 cases mentioned work of so much importance could have been carried out without a faculty; that is to say, without the control of any public authority. It rejoices to find that your Report recommends steps being taken to prevent this happening in future.

The Report refers to the case of Elvaston Church, which was "entirely restored" by the late Mr. Bodley. The inference read by the Ancient Monuments Committee into this statement—namely, that any works suggested by this eminent architect must be harmful—is hardly fair. The Ancient Monuments Committee should realise that it is "restoration" to which the Society objects, and not Mr. Bodley. In one of the documents which my Committee believes the Ancient Monuments Committee has in its possession—namely, "Notes of the chief points to be laid before his Grace the Archbishop of Canterbury and his Grace the Archbishop of York on the 16th July 1913, at 11.30 a.m., at Lambeth," paragraph 16—will be found the explanation of the reference to Mr. Bodley, for the case is an instance of work being carried out by a well-known architect in an ancient building and reducing both its historic and artistic value.

It is acknowledged that architects in the first rank of the profession have in time past done much harm by their

treatment of old churches—witness some of the works of Sir Gilbert Scott, R.A., Mr. G. E. Street, R.A., and Mr. J. L. Pearson, R.A. The meaning of this case is that the fame of an architect is not security against like treatment. If the Ancient Monuments Committee approves the work done at Elvaston Church, this Society will regretfully find itself holding a quite opposite opinion. The Ancient Monuments Committee states that "as a matter of fact the old church was enlarged and adorned." This work is usually known to the public as restoration, but, as this is a misuse of the word, inverted commas were used in the "List" to show this point. Restoration, as regards buildings, in its true sense means the replacing of fallen or displaced members—stone, timber, iron, or glass—in their original position. To renew is not to restore, and to adorn or enlarge is no more so, but the word is now so loosely used as to hold any of these meanings.

Referring to the Notes for the Memorial to the Archbishops, it is clearly stated that the Society raises no objection to additions to churches where no other means of obtaining accommodation for the congregation or the clergy can be found, but not otherwise. Again, it considers the features and characteristics of a mediæval church far more valuable than any modern adornments of it, which unfortunately, however good, cannot be inserted or added without disturbing the former qualities.

My Committee believes that the Ancient Monuments Committee will agree with the principles involved here, and that it will even go further and admit that unhappily a mistake was made in the case of Elvaston Church. It is observed that a quotation is made of some words of Mr. Peers, which undoubtedly should have weight, but they are not in themselves evidence that he would have approved the work done at Elvaston or other churches on the "List."

Referring to the sentence from the Report of the Ancient Monuments Committee, "in 18 or 19 cases where faculties were obtained well-known architects were employed," I am directed to draw your attention again to the Notes, paragraph 16, and to the reference already made to the subject in connection with Mr. Bodley. It is thought that the weight of the evidence on these points will be sufficient to show that even well-known architects make mistakes. We may point out that an architect generally becomes well-known through his modern building, and, on account of his reputation gained in this way, his opinion is accepted, and the nation loses a portion of the historic works of its early days.

Referring to the ten cases mentioned by name, my Committee would be glad of an opportunity of giving further evidence, and it thinks it can produce categorical affirmation by disinterested persons with intimate knowledge to support its statements. It does not wish to make use of any unfair argument in its favour, but since the works are all of recent date it would suggest that some of the denials referred to in the Report were made by the persons who ordered or supported the various works, and whose opinions, therefore, are hardly likely to be other than favourable to the results.

It would seem that only one more reference is necessary to this series of criticism—namely, to the case said to refer to stained glass alone. The 19th case in the "List" has no reference to stained glass, so that it is thought that the criticism can only refer to Walpole St. Andrew, and therefore the following remarks concern this church.

At Walpole St. Andrew the east window was of the fifteenth or early sixteenth-century workmanship. It had an even number of lights (four is the number stated), but the central dividing mullion was entirely removed and the tracery altered in order that stained glass having a central picture could be inserted. This can hardly be justified by any person or body who, like the Ancient Monuments Committee, are undoubtedly desirous to protect ancient work.

On page 5 of the Report, in paragraph beginning "There are two . . ." it is said that this Society, to be useful, must consider how to adapt an ancient building to modern uses. It is hardly necessary to say that the Society is fully aware of this, but at the same time it does not forget the importance

to the country and to the Church of an old building as a work of art and as a living example of early history. The inference is that this Society does not consider how to adapt ancient buildings, and the answer to this inference is to be found in the Notes before referred to.

Again, on page 5, as to restoration. It is true that the Society does emphatically object to restoration in the sense of an attempt to reproduce to-day the art of a long-past century. It considers this process fundamentally wrong.

In the same paragraph it is stated that the Society holds that old stone should be repaired with tile. This is not the whole of the conclusion which the Society has reached. What the Society does advocate is that new material should not be put in until it becomes structurally necessary, and that, when the time comes, the quality of the material inserted should be such as will necessitate the least possible interference with the structure, as will make the work lasting, and as will detract from the tone and character of the building as little as possible. The Society has found that tile satisfies these requirements in many cases better than other materials. It is the principle and not the means which is the important matter. Once that is grasped the means of executing the work satisfactorily are almost unlimited.

Reception of Belgian Architects at the R.I.B.A.

The Royal Institute of British Architects has from the first opened its doors to the numerous Belgian architects who have sought asylum in England during the reign of terror in their own country. Certain privileges of membership have been accorded them, such as the use of the Institute Library and the right of attendance at its ordinary general meetings, and courtesies have been extended to them by individual members anxious to lessen the rigours of their exile. On Monday, 25th January, a number of these gentlemen and their ladies were the guests of the Institute at a reception given in their honour at the R.I.B.A. Galleries. The President, Mr. Ernest Newton, A.R.A., who was accompanied by Mrs. Newton, received the guests and warmly welcomed them on behalf of the Institute. The architects present included men eminent in their profession, some holding high official positions in Brussels, Antwerp, Liège, and other Belgian cities. M. Paul Lambotte, Directeur des Beaux-Arts de Belgique, and Mme. Lambotte, and M. Caluwaerts [*Hon. Corr. M.*], Past President of the Belgian Society of Architects, and Mme. Caluwaerts were among those present. The opportunity of meeting their colleagues under the hospitable roof of their British professional brethren was evidently much enjoyed and appreciated. On the walls of the Galleries were displayed some of the treasures of the Institute collection, consisting of original drawings of seventeenth-century Italian, French, and English masters, and the original water-colours by James Stuart depicting scenes in Greece from which the illustrations in Stuart and Revett's *Antiquities of Athens* were reproduced.

Homeless Belgian Architects: An Appeal.

Offers of private hospitality for Belgians of the professional class who find themselves stranded, ruined and homeless, on our shores are urgently needed. Members of the Institute who can see their way to offer hospitality to Belgian architects in this

distressing position are requested to be good enough to send their names to the Secretary R.I.B.A., who will put them in communication with those who are in charge of the refugees.

What Architects may learn from Germany.

In a lecture under the above title given at the Architectural Association on the 25th January, Professor W. R. Lethaby said that the first thing in the arts we could learn from Germany was how to appreciate English originality. For several years the German Government had attached to its London Embassy an architect, Herr Muthesius, who became the historian in German of the English free architecture. All the architects who did any building were investigated, sorted, tabulated, and—it must be said—understood. Then, just as English free building had arrived, there came a dreary reaction and the re-emergence of the "Catalogue" style. German advances in industrial design were founded on the English arts and crafts, and showed knowledge showing the essence of the best English essays in furniture, glass, textiles, printing, &c. Just as our country gave Germany many of the industrial ideas she had so thoroughly exploited, so in our country we seem to have arrived first at the thought of an architecture which should develop in its own sphere and not be for ever casting back to disguise itself in the skins which it had long ago sloughed off. German architects had seized on this theory of a "real" architecture. Meanwhile we in this country had been caught up in one of our recurring reactions. Architecture was not seen as one of the forms in which the national energy, intellect, and spirit should expand, but it was diverted and maimed and caged into formulas which were not only dead but never had life. Another thing we ought earnestly to set about competing in was public works. For instance, the constantly recurring Thames Valley floods should be remedied. On the Continent streams were guided and controlled and bridged. He appealed to the architectural papers to consider for a time public works—not merely to chronicle them, but to ask for them, preach for them, and get them. The academic improvement of London was too apt to begin by the pulling down of some of the fine things we have already. We have no steady stream of opinion turned on every day for minor improvements, such as the putting in order of our underground stations. He suggested this as a welcome change from pictures of Mr. A's billiard-room or Mr. X's golf cottage! Our great and noble architecture must be saved from being an adjunct of new-richness and week-ending. A tremendous work has to be accomplished in England in improving our villages and towns and the public services.

Mr. ERNEST NEWTON, A.R.A., President, has received the honour of election as "Membre Correspondant" of the Société des Architectes diplômés par le Gouvernement.



Burgos Cathedral.

ARCHITECTURAL SCULPTURE IN SPAIN.

By AND. N. PRENTICE [F.].

Read before the Royal Institute of British Architects on Monday, 15th February 1915.

SPAIN is perhaps the one country in Europe where the happy intermingling of the two sister arts can be profitably studied. At all events, there are few countries which contain such a wealth of fine examples spared by the ravages of time and war. The well-preserved sharpness of existing works in stone and marble may to a certain extent be accounted for by the geographical situation of the country, while the profusion of decorative sculpture exhibited on the buildings may be traced to a characteristic love of display inherited from the Moors. The desire for rich detail was common to both races, with this distinction—that the Moors were content to limit their ornamentation to geometrical and natural forms, the idea of any representation of the human figure being specially repugnant to the Islam mind.

It seems strange, perhaps, that these works should be so little known in our own country. Few books have been written dealing with the subject, but we are indebted to Mr. A. F. Calvert for an excellent little handbook, recently published, dealing with Spanish sculpture, and also to M. Marcel Dieulafoy, for an interesting work published in Paris in 1908, entitled *La Statuaire Polychrome en Espagne*. Both these books have given me valuable information, as have Professor Carl Justi's notes in *Baedeker's Handbook to Spain*. Few writers have, however, attempted to classify the existing works of the better known architects and sculptors.

On a first visit to Spain the architectural student already familiar with Gothic sculpture in England, France, or Italy will be astonished at the richness and voluptuousness of the work when brought face to face with many such examples. He may possibly have no previous knowledge of their existence, nor even know by whom or why they were erected. Time may also be limited, and to attempt to make a drawing is impossible. It therefore frequently happens, as in my own case, that a good photograph is secured as a substitute. Having a large collection of these interesting views, it is my present desire to put them to some practical use by making them the subject of this Paper.

It will be my endeavour to supply some of the connecting links between the works of art which we will discuss and any contemporary examples to be found in other parts of the peninsula. I shall also

endeavour to take my hearers into the very heart of Spain, and, if my enthusiasm should apparently bias my judgment, I trust I may be excused.

I may say at once that no Spanish sculptor has ever risen to the fame of a Donatello or a Michael Angelo. Nevertheless, Spain produced native talent of a very high order, quite unsurpassed by any in England during the same period.

After a brief sketch of the development of architectural sculpture my remarks will be confined to the period immediately preceding that far-reaching event in Spanish history—viz., the union of the crowns of Castille and Aragon, an epoch which terminated with the close of the illustrious reign of the joint sovereigns, Ferdinand and Isabella.

To trace the birth of Spanish sculpture we must go back to Early-Christian times, to a period long after the Visi-Goths had gained a footing in the peninsula. It would appear that the Visi-Goths mainly expended their energies in fortifying their towns and in converting the Roman buildings to Christian uses.

The only authentic work of this remote age is a golden crown found at Toledo in 1858. It cannot with any certainty be said that the rude sculptures in stone, preserved at the Madrid Museum and described as Visi-Gothic, have any right to that epithet.

On the conquest of Spain by the Moors in the year 711 A.D. the vanquished Goths retired into the mountain ranges of the Asturias, where they were able to establish themselves and to form a stronghold, from which their champion Pelayo in later years issued forth, and started the movement for the reconquest of Spain to Christendom. Alfonso II., known as the Chaste, founded the capital at Oviedo in the year 791. He added to the cathedral the famous Camara Santa, a curious two-storied building enriched with effigies carved out of dark stone. Here are preserved to this day some of the earliest relics of the Byzantine-Latin period, comprising several early crosses and the famous Arco de Los Santos—a wooden box decorated with figures of the Apostles. At a somewhat later date sculptured bas-reliefs were introduced amongst floral decorations, as we find them in the church of San Pedro at Zamora. There also exists a small ivory crucifix showing traces of colour in the museum at Leon, and a crucifix of the Cid preserved at Salamanca, both distinctly Byzantine in character.

Scattered along the coast to the north-west of Spain are remains of other churches of the eleventh century, containing portals, fonts, and tombs of great interest if not of very great merit. Native Spanish art was very slow to develop during these troublous times, and the Christian monarchs were often driven to engage the services of Moorish sculptors and decorators.

With the commencement of the twelfth century architecture received a fresh impulse. More frequent intercourse sprang up with the adjoining northern States. Royal marriages were arranged, and French princes crossed the frontier to war against the Moors. Accompanying them came numerous prelates, and afterwards followed architects and sculptors. The influence of the great ecclesiastical order of Cluny was soon felt, and the Romanesque style gradually developed.

The imagination of the Romanesque stone-cutters lavishly displayed on monuments and in churches may be admired on the double capitals in the cloisters of Santo Domingo de Silos. They are all richly carved with Bible subjects, with beast forms, fantastic monsters, and familiar scenes from human life.

With few exceptions the new churches were of moderate size. Their type was that of the Basilica, with well-marked transepts, and occasionally at the crossing a lantern dome was added. At Toro, Zamora, and Salamanca this form of dome was further developed. It seems to have been a feature on which the Spaniards exercised their ingenuity in evolving a type peculiarly their own. Santiago Cathedral, built after the same form of plan as St. Sernin at Toulouse, was the outstanding work of the new Christian art. Its wonderful Puerta de la Gloria is described by Street as one of the grandest glories of Christian art. A full-size plaster reproduction of this doorway is in the South Kensington Museum.

At the church of San Vincente, at Avila, there is another beautiful portal, although one perhaps not so well known, to which additional charm is imparted by the introduction of quaint terra-cotta



Leon Cathedral.



In the Cloisters, Leon Cathedral.



Door to Archbishop's Palace, Burgos.



Apsé in the Old Cathedral, Salamanca.

statuettes. The nave of this church, with its triforium and clerestory, is in the pure Romanesque style; indeed, the Romanesque style lasted longer in Spain than anywhere else, and continued till as late as the fourteenth century.

In France the tremendous activity of the thirteenth century architects soon made an impression on Spanish architecture. The grave temperament of the Castilian was sympathetic to the severe French style, and as a result the cathedrals of Leon, Toledo, and Burgos came into existence modelled on buildings such as Amiens and Rheims. The creative activity of the sculptors, stimulated by studies from life, produced work which deserves to rank with the best French examples, as, for instance, the figures on the portals of Leon, Burgos, and Tarragona cathedrals.

The sculptures at Burgos Cathedral are alone sufficient to indicate the proficiency of the stone-carver's art; those in the cloisters bear traces of colour. The earlier carvings, and in particular the figure groups so happily placed at the external angles of the cloisters, belong to the opening years of the thirteenth century. Fortunately, up to the present, they have not suffered from restoration. The colours are faded, but the vivid reds and blues, so much used by the Moorish decorators, can be easily seen, together with traces of gilding. The graceful ease of the later works of the fourteenth and fifteenth centuries may be studied in the door leading to the south transept. This portal is further enriched by magnificent wooden doors, executed a century and a half later by order of Bishop Acuña.

Up to this time Spain was content to retain the services of French sculptors as her teachers and advisers. In the last third of the fifteenth century, however, Flemish carvers were induced to visit Spain, and brought about a transformation of the art.

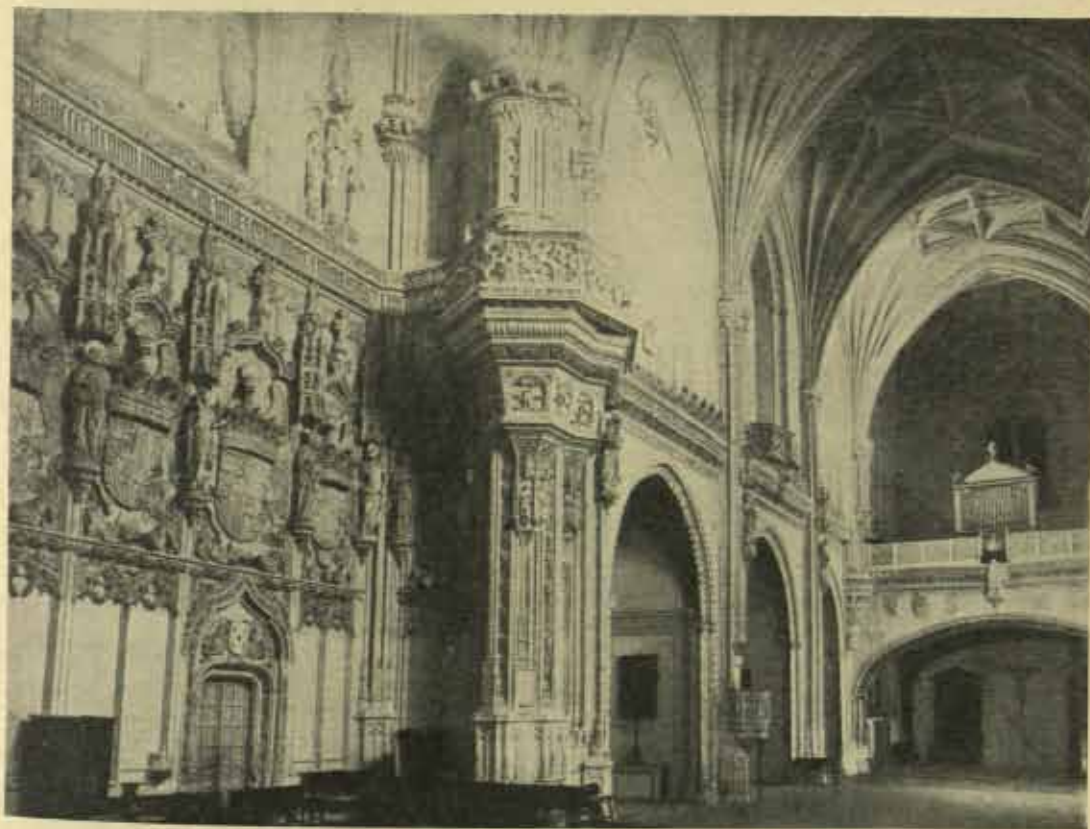
In architecture the geometric severity of early Gothic forms gave way to more flowing and sympathetic lines, a taste had arisen for rich and realistic ornamentation, and the mental activity, excited by the importation of new styles, together with the increase in technical dexterity, led to the introduction of many remarkable buildings.

Amongst the many Flemish architects who were brought over to Spain at the end of the fifteenth century, the names of Enrique de Egas and Juan Guas stand out most prominently. Ferdinand and Isabella commissioned the latter to erect the convent church of San Juan de los Reyes, at Toledo, to commemorate the defeat of the Portuguese at Zoro in 1476, and at the same time they meant this church to be their last resting-place. The building has a very beautiful interior. It consists of a nave without aisles, but flanked with chapels. To the west of the transept the church is divided into four bays, and the Coro alto, or high choir, is placed in the last compartment, communicating by means of side galleries, with very remarkable tribunes for the royal family. Here the transept extends to the full width of the church, and displays the finest sculpture in the building. The elaborate decorations on the walls—statues of saints, curved Gothic tracery, with figures of children, and the colossal coats-of-arms of the Catholic kings, supported by eagles and accompanied by their badges and initials—should be carefully observed. Long inscriptions in Latin and Spanish refer to the glories of the royal founders of this truly regal chapel.

Cardinal Mendoza, who was primate of Spain at this time, obtained the services of the architect Juan Guas to design the family palace at Guadalajara. Juan Guas was also assisted by his brother Enrique, and the latter no doubt is responsible for the fantastic design of the patio, as I can hardly conceive this to be the handiwork of the architect who produced the graceful Toledo church. It must be admitted that this kind of treatment is very appropriate to a southern climate. The charming effect produced by the brilliant sunshine on the rich orange-coloured stonework, reflecting the clear blue sky, is well impressed on my memory; nor can it be denied that this patio, with its two tiers of arcades, displaying the shields of the Mendoza and Luna families, and flanked with griffins and large heraldic lions, had a certain amount of elegance and quaintness. It was in this palace in 1495 that the great Cardinal Mendoza breathed his last in the presence of the Catholic kings. Here also Francis I. (of France) resided for some time before proceeding to Madrid as a prisoner of war, and was much fêted by the old Duke of Infantado.

At Valladolid are two extraordinary examples of this grotesque style, which the Spaniards designate the *Estilo Monstruoso*. I refer to the façades of San Gregorio and San Pablo. The College of San Gregorio, completed in 1496, was founded by the Bishop of Valencia, as a sort of foundling hospital. I can find no record of the architect's name, but the details, representing lions and figures of wild men, bear a strong resemblance to similar objects at Guadalajara, and would almost suggest that this is the work of the younger Guas. In the centre panel there is a large heraldic tree supporting a royal coat-of-arms with lions, and surmounted by rich canopy work. On either side of the doorway are life-size warriors, and there is a relief over the lintel, representing the founder kneeling and dedicating his good work to St. Gregory.

The other façade—viz., that of San Pablo—might be attributed, although it is only a conjecture,

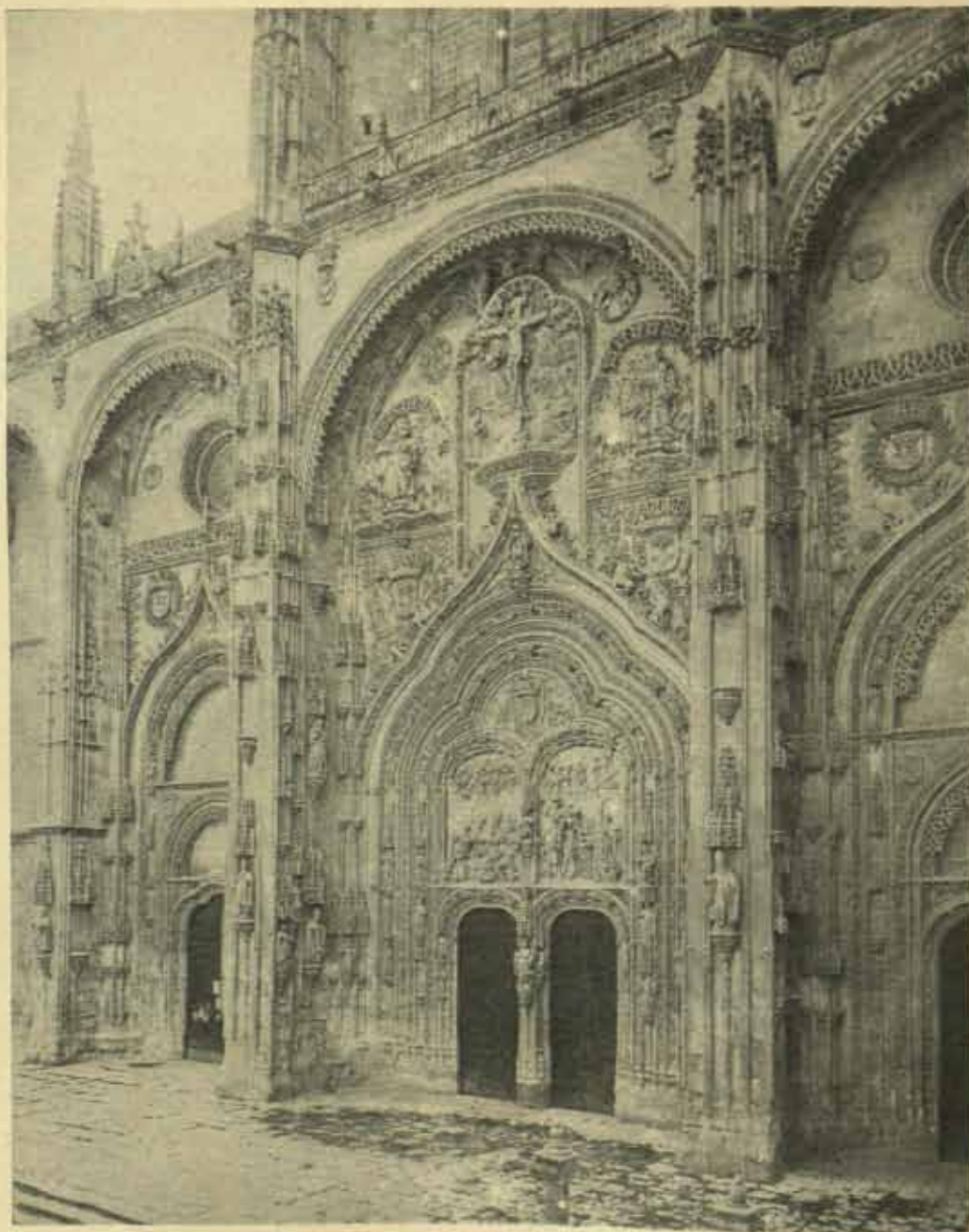


Interior of San Juan de los Reyes, Toledo.

to Juan Guas, the brother of Enrique. The refined details are quite as graceful as those at San Juan de los Reyes, at Toledo. This is one of the richest specimens of a fifteenth-century doorway in Castille. The whole sparkles with original fancy. Here the sister arts of sculpture and architecture blend in a most pleasing manner, although the general effect may perhaps be open to criticism. A certain amount of confusion is evident owing to the interlacing lines of the curved stone mouldings, but, even so, the architectural details breathe an artistic spirit of vigour and beauty.

With the advent of the sixteenth century native architects arose in Spain, notably the Hontaños, father and son, and when the idea of building a new cathedral at Salamanca arose it is interesting to note that in those days the vexed question of appointing an architect gave rise to considerable discussion, even between the monarch and his subjects. The following are the circumstances under which Hontaño was chosen to be the architect. In 1491 Ferdinand and Isabella sent a royal command by letter to Cardinal Angers, making plain to him that the dark, small, old cathedral was no longer in

keeping with their glory or that of the times, and asking him to take steps to collect funds for a new building. Little progress seems to have been made until 1508, when Ferdinand, passing through



Salamanca Cathedral: West Front.

Salamanca, now at the zenith of its prosperity and academic renown, issued the following order to Rodrigues :—

The King to the Master Architect of the works at the Church of Seville. Since it has now to be decided how the Church of Salamanca may be made, I charge and command you instantly to leave all other things and come to the said City of Salamanca; that, jointly with the other persons who are there, you may see the site where the said church has to be built, and may make a drawing for it, and in all things may give your judgment how it may be most suited to the

Divine worship, and to the ornaturne of the said church, which, having come to pass, then your salary shall be paid, which I shall receive return for in this service.

Done in Valladolid 23 Nov. 1509.

The famous Master of Toledo, Anton Egas, received a similar summons (served in his absence on two maids), but neither architect seemed to have been over zealous in carrying out the royal commands. Later, on receiving a more peremptory command from Queen Juana, the two delinquent architects hurried to the city, studied the conditions, and, after considerable squabbling with each other and the chapter, made drawings, together with a long report.

This friction was too much for the Bishop, who without further ado summoned in 1512 a conclave of the most celebrated architects of the day—Juan de Badajos, Alonso de Covarrubias, Juan de Alava, and others. The result was that, three days later, Juan de Hontañon was named architect.

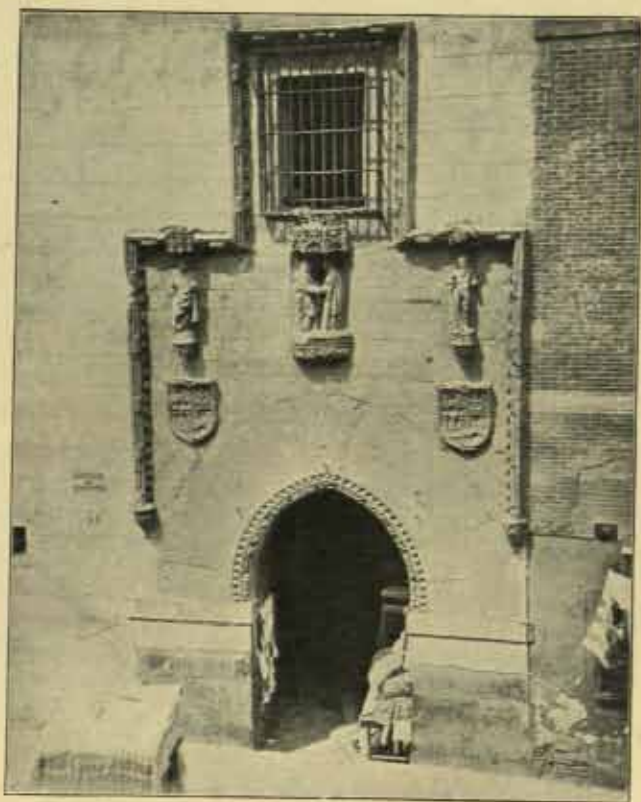
After much deliberation it was decided not to pull down the old cathedral, and the new structure rapidly arose on a site immediately adjoining. The west front, with its profuse adornment of sculpture, was the first portion of the fabric to be erected, developing later lofty arches, slightly reminiscent of Peterborough. The centre arch is enriched from top to bottom with fine medallions, delicate ornamentation, and statues, executed at a later date by Juan de Juni and Becerra. Over the doorway are the Nativity and Adoration in high relief, and above them the Crucifixion, with St. Peter and St. Paul, flanked on either side by numerous Saints in niches.

The impression conveyed to the English mind is that the whole thing is overwrought and extravagant. We have nothing like it in our own country, but nevertheless it is a faithful expression in stone of the national sentiment for display which pervaded the minds of the nation. It would, indeed, be difficult to conceive the style being capable of further development.

Some twenty years later, after the erection of Segovia Cathedral by the same architect, the Gothic style was abandoned in favour of the new Plateresque style, and forms of the early Italian Renaissance.



House of Don Juan Bravo, Segovia.



Hospital de la Latina, Madrid.

During this transition the "Mudejar" style, as it is called, came into existence. In this connection the door of the Escuelas Menores at Salamanca, characteristically set in a blank wall, is well worthy of note as a specimen of civic architecture. Above the two archways forming the entrance are displayed the three escutcheons and the triple crown which proclaim the university to be Royal, and the heads of St. Peter and St. Paul which proclaim it to be Pontifical. These examples appear framed in a profusion of detail, in which the Gothic and Plateresque styles are charmingly assimilated.

Again, at Zamora may be found a fragment of an ancient mansion, known as the house of the Momos. Here the Saracen influence is strongly pronounced. Possibly Momos was a Moor; if not, he must have employed Moorish architects, many of whom had settled in Castille. The round-headed doorway, with its radiating arch stone, is a pronounced Moorish feature. It is worth observing the



Detail of Doorway, Salamanca University.

quaint manner in which the two central windows are framed against the large panel bearing the arms of the owner, and also the extremely happy grouping of the heraldic shields. They seem to be placed exactly in the right spot.

A simplification of this form of doorway may be frequently seen in the principal towns throughout Castille, some examples having square-headed doors, with deep lintels formed out of one stone, but all are surrounded by the same type of moulded label, within which the ornamental features are concentrated.

In Madrid is another beautiful doorway illustrating this interesting point. It belongs to the Hospital de la Latina [p. 175], built by Hassam the Moor, who had evidently become Christianised, as his statue appears over the doorway depicting him handing alms to a nun. On either side are skilfully placed shields containing coats-of-arms surrounded by canopied figures. There are not many doorways of this class with pointed arches, and few are designed with such grace and beauty. Before

dismissing the "Mudejar" style we must not overlook a tiny little building at Segovia displaying the above characteristics in a modest manner, but which is nevertheless full of great charm [p. 175].

On the discovery of the New World architecture developed a strong Renaissance feeling. A new style gradually came into being. It was called the Plateresque. The name seems to have been conveyed from the notion that its surface ornamentation and arabesques resemble the carefully chiselled work of the silversmiths. Spanish sculptors who had studied in the studios at Rome took part in the movement, and vied with the late Gothic sculptors in decorating buildings with a new garb. The old Gothic constructive principles still remained, the new birth being simply a change into classic detail of Gothic ornament.

The sculptor Philip Vigarni or Borgoña was one of the first to come under the influence of the Plateresque. We find him in the capacity of architect undertaking the rebuilding of the lantern dome of Burgos Cathedral, a marvel of rich Renaissance detail cleverly mixed with the Gothic. It is related that Charles V. on his visit to the city declared that this was the gem of the whole cathedral. Other sculptors who carried out work at Burgos were the Colonia family and Deago and Gil de Siloe.

To the student of the Plateresque the buildings in Salamanca would perhaps most strongly appeal. It was in that city that Diego de Deza, Archbishop of Seville, added the fine Plateresque façade to the Church of San Esteban, commonly called Santo Domingo.

Previous to this the well-known façade to the University Library at Salamanca had been erected to the supposed designs of Enrique de Egas. It forms one of the most brilliant examples of the reign of Ferdinand and Isabella, whose medallions are represented over the central pier of the doorways enclosed in a frame with a Greek inscription. Armorial bearings, busts, and other ornaments, including a relief of the Pope, are all skilfully worked into this unique piece of architectural scenery. The delicate manner in which the ornament is treated over the door heads and increases in scale and projection as it ascends to the top is well worth noting—a refinement observable in Moorish architecture. On the whole this is a superb piece of design. The motive is distinctly of Moorish suggestion and nothing quite like it exists in any other part of Spain.

At Toledo Cardinal Mendoza, just before his death, gave instructions for the erection of the Hospital of Santa Cruz.

The Cardinal Princes of Spain founded many large hospitals during the reign of the Catholic Kings, and thanks to their munificence the aged and infirm were well provided for. They appear to have spent money on a lavish scale, if we may judge by the well-appointed edifices still existing at Seville, Toledo, Valladolid, and Santiago.

The hospital at Toledo takes the form of a Maltese cross. It was intended to have four patios,



Tomb of Don Alfonso, Burgos.

similar to the hospital at Valladolid. Enrique de Egas was entrusted, so it is stated, to make plans for both these buildings. At all events, there seems to be no doubt that he was the author of the Toledo façade. The Arab influence is again apparent in the form of the general design. The grouping of the windows, with the circular pediment over the doorway, is excellent, were it not for the unfortunate effect produced by the rounded pilaster following the curve of the archway and suddenly taking a perpendicular course.

The finest and most perfectly preserved carvings in Spain are undoubtedly to be found in the interiors of the great cathedrals, and I propose now to refer to the sculptor's art displayed on many of the tombs. The subject of sepulchral monuments in Spain could alone fill a large volume. Their number is infinite, and to anyone conversant with Spanish history the greatest pleasure and interest



Tomb of Don Alvaro de Luna, Toledo Cathedral.

are afforded by their examination. They present to the mind, with the greatest vitality and distinctness, men who have taken an active part in the national affairs of Spain.

The early tombs were in the form of sepulchres with carved sides and ends, not unlike the Roman sarcophagus. Then reclining figures were introduced, in some cases surmounted by quaint canopies. A good example of the sarcophagus type is preserved in the Convent Church of Las Huelgas, at Burgos. It is the tomb of the Infanta Dona Berenguela, daughter of Ferdinand the Saint, who founded this church in 1279. This is a work of great dignity, and a certain "tomblake" mystery is imparted by the projecting line of canopies, which cause a deep shadow to envelop the bas-reliefs decorating the sides.

There are also some really fine monuments in the cathedrals of Salamanca and Burgos. Many of them are richly painted. The predominating tints are red, dark blue, and white; there are also traces of yellow, possibly due to the sizing used in fixing the gilding.

Another interesting sarcophagus of the thirteenth century is at Avila, in the church of San Vincente. Unfortunately, it cannot be properly seen owing to a canopy having been erected over it in 1460; it is known as the tomb of the Martyred Saints—viz., SS. Sebina, Vincent, and Christina.

In the long list of tombs of this period it is difficult to select one that is finer than another. Possibly the monument to Archbishop Lopes de Luna, in the See Cathedral at Zaragoza, may be considered to rank as a masterpiece; it is pronounced by authorities to be the work of French sculptors. The tomb is set in a deep recess decorated with a beautiful frieze of sculptured figures—a most original arrangement, which adds great distinction to the monument. The figures represent a company of monks and nuns, in a reverent attitude, watching over their benefactor reclining peacefully below clothed in Pontifical robes. The sarcophagus underneath is designed with simple dignity and reserve, and the figures are carved with much character and skill. Words fail one to describe this splendid work, representing as it does Burgundian art at its zenith.

In the kingdom of Aragon, which borders on the Mediterranean, intercourse with Italy was frequent, and we find works of Spanish sculptors showing Italian sympathy. At Sequenza there is an



Royal Tombs in the Capilla Real, Granada.

admirable tomb of a knight of Santiago, Martin Vasquez de Arco, one of the earliest monuments to show Italian Renaissance influence. It is attributed to Damian Forment, a native of Valencia. Here the figure reclines in a new and fresh attitude, intently studying a book, firmly held with both hands, while the expression of the face is exceedingly lifelike. The Cross of Santiago can be observed painted on his breast, and other colour decorations can be traced on the wall behind the tomb. In the centre is a marble panel with a Spanish inscription recording the valiant deeds of the said knight and how he met his death fighting against the Moors.

We will now return to Castille, where at the end of the fifteenth century the Flemish art held sway. Queen Isabella's father, Juan II. of Castille, was a worthless monarch, and was for nearly thirty years ruled by his minister, Don Alvaro de Luna, a man of haughty and overbearing character, who had formerly been a page in the royal household. Alvaro amassed great wealth, and erected in 1435, at his own expense, the splendid Chapel of Santiago, situated at the east end of Toledo Cathedral. He furthermore, during his lifetime, constructed in this chapel a magnificent tomb in metal for himself. This monument was so arranged that the recumbent effigy could, when mass was said, slowly rise, clad in full armour, and remain kneeling until the service was ended, when it would slowly resume its former position. This tomb was destroyed after the unfortunate end of the minister, who, owing to

having incurred the enmity of the new queen, was accused of high treason, found guilty, and executed in the square of Valladolid in 1453. Count Alvaro's daughter erected the tombs we now see in the chapel [p. 178]. At each corner of his tomb, that on the right, kneels a knight of Santiago, at his foot a page holding a helmet. Pablo Ortiz was the sculptor chosen to execute the monuments, and they were begun in 1488, the material employed being Carrara marble. At the corners of the adjoining tomb, erected to the memory of Count Alvaro's wife, are four Franciscan monks, and at her feet a waiting woman with a book. The carvings on the beautifully executed side panels, showing the rich folds of the Flemish draperies, are worth studying. The character of the draperies may be seen better on the corner figures. I cannot refrain from remarking that few tombs have impressed me more than these splendid works.

At this period Spain had the proud honour of producing a sculptor of its own, in the person of Gil de Siloe. He was a native of Burgos, a city already famous for its many fine productions of the sculptor's art, and, born in an atmosphere of deep inspiration, it is no wonder that he soon became the greatest artist of his day.

In 1489 Isabella commissioned Gil de Siloe to design the monuments to her father and mother. As a faithful daughter she had evidently given instructions for the finest creation that could be produced; and there is certainly nothing more sumptuous to be found in Europe. Constructed in alabaster, the monument stands in the centre of the church, and takes the shape of a large diamond with projecting angles, forming a sixteen-sided sarcophagus, a shape very uncommon and possibly of Eastern origin. Fine canopy work framed the couch, on which the figures recline side by side, separated by a low, delicately pierced, marble screen. The robes and cushions are wonderfully worked, as well as the seated figures of the four Evangelists. Sixteen lions, two at each angle, support at the base eight escutcheons bearing royal arms. The sides and angles are crowded with statuettes, placed beneath filigree canopies.

Close at hand, against the side wall of the church, is the tomb of their son, Don Alfonso, whose death at the early age of sixteen brought about the succession of his sister, Isabella. This richly carved and elaborate monument is also the work of Gil de Siloe. Here, again, a certain freshness and originality may be observed in the attitude of the single figure kneeling before a prie-dieu. An elliptical arch frames the composition, festooned with vine ornament, interwoven with figures of children.

I am fortunate in being able to show an enlargement of the kneeling figure from the tomb of Juan de Pedilla, now in Burgos Museum. The monument, although not so elaborate, is very similar in form to the last example. The life-like expression and character of the face, the details of his robe and the boyish simplicity of the figure are indeed charming. He was a royal page, and is known to have been a great favourite of Queen Isabella. Underneath the kneeling figure are some exquisite carvings of angels supporting shields, of which I made a small pencil study when in Burgos in 1891. Subsequently I had it reproduced, as a heading, in my book on *Spanish Architecture and Ornament*.

Before dismissing Gil de Siloe we must not overlook his works in Burgos Cathedral. In the north aisle he carried out the tomb of Archdeacon Pedro Fernandez de Villegas, a work of great dignity, well-preserved and graceful in outline. This monument cannot fail to claim the attention of the passer-by.

There are two fine recumbent figures of this period in the Constable's Chapel at Burgos Cathedral executed by some unknown Italian sculptor and erected to the memory of Don Pedro de Velasco, Count of Haro, and his wife, the Countess of Haro. The white Carrara marble in which the figures are chiselled is strangely vivid against the dark jasper base on which they rest. The Constable is clad in full Florentine armour, his hands clasping his sword and his mantle about his shoulders. The robe of his spouse is richly studded with pearls. Her hand clasps a rosary, and on the folds of her skirt her little dog lies peacefully curled up.

(To be continued.)

THE REFECTORY OF BELLA PAISE ABBEY, CYPRUS.

By GEORGE JEFFERY, F.S.A.,

Government Curator of Ancient Monuments, Cyprus.

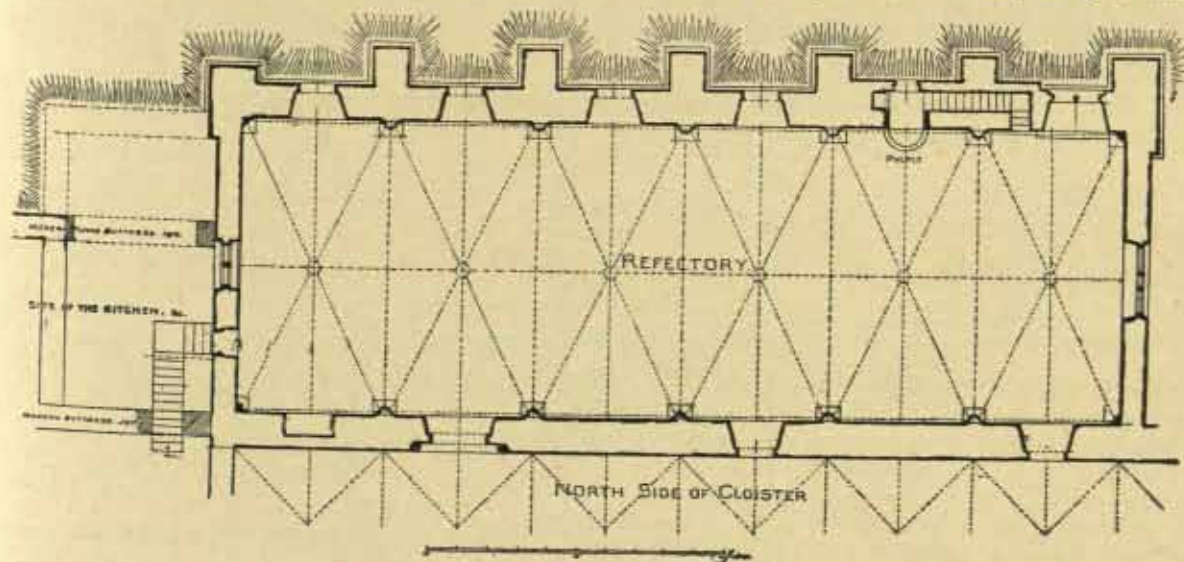
ONE of the finest and grandest examples of a great vaulted hall of the middle ages—and of mediæval art at its zenith—stands almost forgotten and unknown in the "enchanted island" of Cyprus. The "enchanted island" may indeed be considered to possess still two or three sleeping architectural beauties known to few in the busy world of art study, and one of these is the magnificent Refectory which still survives in an almost perfect condition amongst the ruins of the Abbey of Bella Paise.

The JOURNAL of the R.I.B.A. is almost the only channel through which the interesting remains of an ancient or mediæval colonial architecture in the Levant have been made known to English students,

of interest in supplying a few details omitted in the great French monograph on Cyprus.

The preservation of the great Refectory of the Abbey has been the chief subject of anxiety during the past few years of my holding the office of Curator of Ancient Monuments. The terrible disaster which occurred to the ruins in 1911, when the whole of the east wall of the dormitory fell down, seemed to herald the final ruin of this superb work of art. But at last a certain amount of public opinion was aroused, and the village community which owns the ruins was prevailed upon to allow their repair to take place.

I have already given a general account of the work carried out during 1913, the underpinning of walls,



and I consider myself fortunate in having had the privilege of contributing several supplementary articles to the JOURNAL in recent years.

In 1899, the French Government commissioned M. Camille Enlart to write the excellent *Art Gothique en Chypre*, which was published in two volumes and illustrated with about 450 charming illustrations. This work is almost exhaustive of the subject as a popular description of the Cyprus mediæval monuments, but at the same time its very comprehensiveness prevents that closer study in detail of many of these buildings, which call for drawings on a somewhat larger and more important scale than could be conveniently compressed within two octavo volumes.

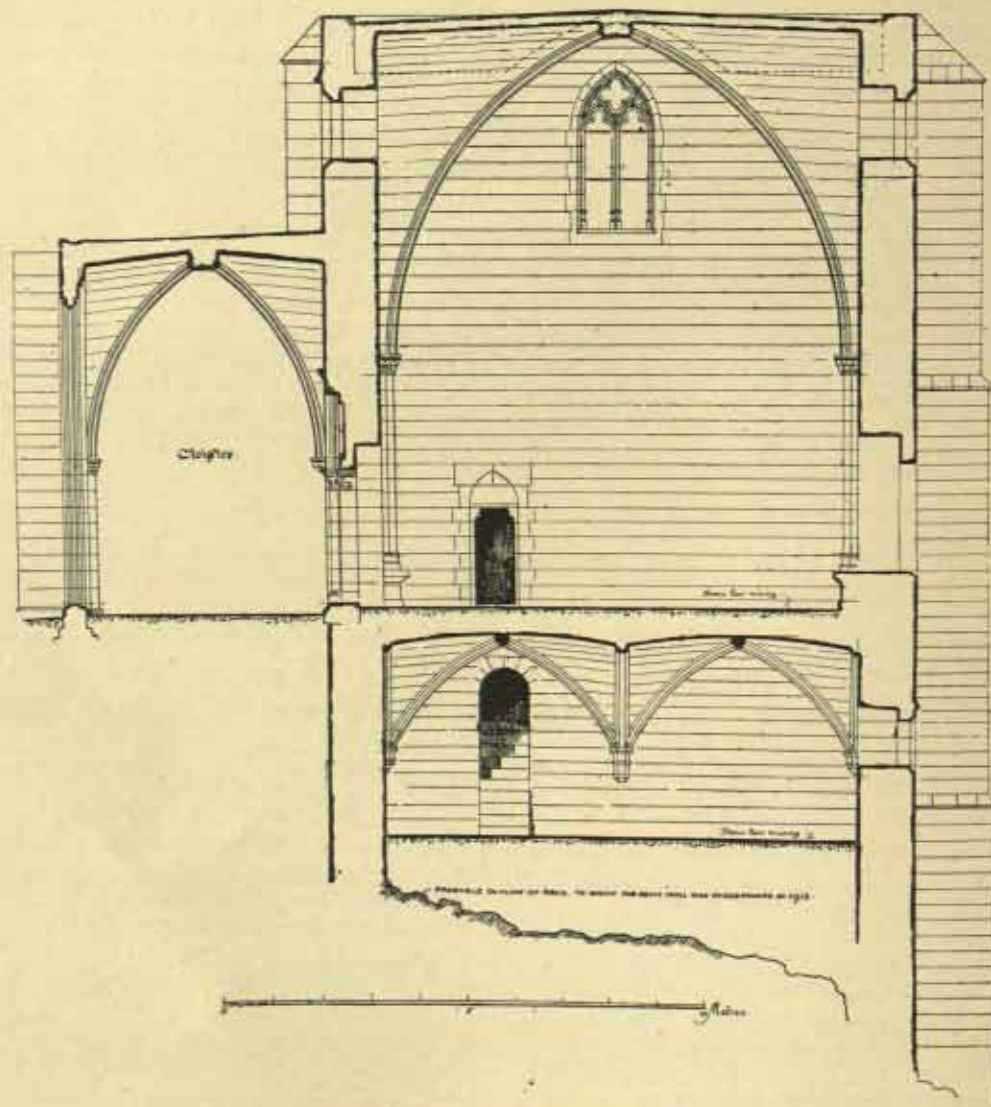
M. Enlart's description of Bella Paise Abbey is altogether excellent, and the drawings which I have been able to make from time to time during my recent work of repairing the monument are chiefly

erection of buttresses, etc., and the present drawings of the Refectory are intended as additional illustrations to that description. [*Vide JOURNAL*, 23rd May 1914, pp. 482-488.]

The Refectory or Frater-house of a mediæval monastery was, after the church, the most important member of the group of buildings. Sometimes it is even larger than the church, as in the present example of Bella Paise. France is the birthplace of these vast halls, vaulted in stone, which the monastic architects of the thirteenth century seem to have made their speciality. According to Viollet-le-Duc, the largest of these very extraordinary constructions was the refectory of the Royal Abbey of Poissy, which survived under the First Empire. It measured 47 metres (about 150 ft.) by 12 metres (39 ft.), and 20 metres (65 ft. 6 in.) in height to the keystones of the vaulting. Like Bella Paise, this was a building of a single nave.

Several splendid examples of this class of constructions once existed in Paris, and the best known survivor is perhaps the refectory of the suppressed monastery of St. Martin-des-Champs, now used as the Ecole des Arts et Métiers, a building still covering nearly as vast a space as the Poissy example, but constructed in two aisles, with a row of seven piers in the middle to support the vaulting.

example. In both cases the north wall with its vaulting shafts, and all the weight of a stone vault resting on it, is supported by buttresses of nearly a hundred feet in height. The "merveille" of Normandy well deserves its name, and establishes the fame of its three architects whose portraits once decorated the upper cloister, but it may be questioned whether the Cyprus masterpiece of masonry is not even more



Bella Paise Abbey, Cyprus: Refectory.

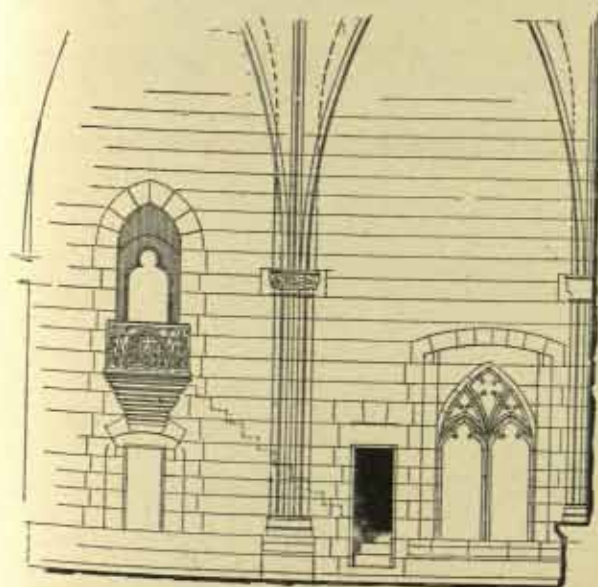
The refectory of Mont St. Michel, and its remarkable position, forming part of the "merveille" (as the stupendous block of construction on the north side of the Abbey has been called in all ages), suggests a close comparison with the refectory at Bella Paise. But the Norman example is a double-aisled building, and although its dimensions are a trifle larger, the hazardous nature of its construction on the edge of a precipice seems hardly so great as in the Cypriot

marvellous in design, and in the fact that it has stood intact for all these centuries. I am not aware of any other example of a vaulted hall of such dimensions standing in quite such a hazardous position—at least within the regions of mediæval art.

The Order of St. Augustine has not left behind it those special characteristics or types in art and architecture which are associated with certain Orders, such as the Cistercian. The development of the Order belongs

to the thirteenth century, and it was intimately associated with the great crusading epoch; its monasteries formed an important element in the communities established in Syria and Palestine, the famous monument of the Holy Sepulchre being confided to the care of a Priory of Austin Canons. As patrons of the new developments of the twelfth and thirteenth centuries in all the marvellous masoncraft and sculpture we call Gothic, the Augustinians seem to have a claim to our regard, although they may not have stamped that connection with the *cachet* of a particular style. The earlier Augustinians practised a certain simplicity in the style of their buildings; their churches were usually small and without side chapels or the chevet treatment, and without towers, but there was no affectation of austerity as with certain of the later Orders.

An Augustinian monastery—and the same arrange-



WALL-PULPIT IN THE REFECTORY.

ments were observed in the Premonstratensian reform of the Order—consisted of an inner cloister for the religious, surrounded by the church, the refectory with its kitchen, the dormitory, chapter-house, and common-room or library. Outside this "clausura" was usually the cloister of the lay-folk, surrounded by the house of the Abbot or Prior, which was sometimes combined with the hostel or guest house, the infirmary, and the buildings which would be required in the working of a farm on a large scale.

The refectory of a mediæval monastery, like everything about such an institution, was planned with a certain attention to ritual and the regulation of the daily life of the monks; the arrangement of the tables, the means of service, etc., are laid down in the famous plan of the Abbey of St. Gall. The refectory at Bella

Paise is planned in its relation with the other parts of the Abbey in a way which corresponds exactly with the far older type of St. Gall; the kitchen (now destroyed) was at the end opposite to the high table of the abbot and dignitaries, the wall pulpit is opposite the entrances from the cloister, and the buffet or serving cupboard still survives in the wall close to the kitchen entrance. According to the St. Gall plan the abbot's table was placed in the centre of one end of the hall, with monks' tables against the walls on either side; in the exact centre of the refectory was the table for the visitors to the Abbey; at the end nearest the kitchen were the tables of the lay-brothers and servants.

Against the walls of the Cypriot refectory there are the remains of something like a wall-seat, but the sections of this feature which remain are in the form of pedestals to the wall-shafts of the vaulting. At the east end this feature in the construction rises to a higher level and shows that a dais existed in this portion of the hall. The paving of the refectory has entirely disappeared, stolen long since to supply the needs of some neighbouring farm; under each of the windows on the north side is a drainhole which must have been intended to facilitate the washing of the floor.

The Lavabo of the refectory stands within an arch of the cloister opposite the entrance door, and consists of two ancient sarcophagi from a Roman tomb, placed one above another in such a way as to allow the water which was contained in the upper one to run into the lower through six small holes carefully pierced, and probably at one time fitted with metal taps. The upper sarcophagus is marble, of a late Roman type, decorated with animal heads and swags of foliage, a curious evidence in its present position of a mediæval appreciation of classic art. There is no trace of any pipe or conduit by which the upper sarcophagus could have been filled; in all probability it would have been by a metal pipe, every trace of which has disappeared.

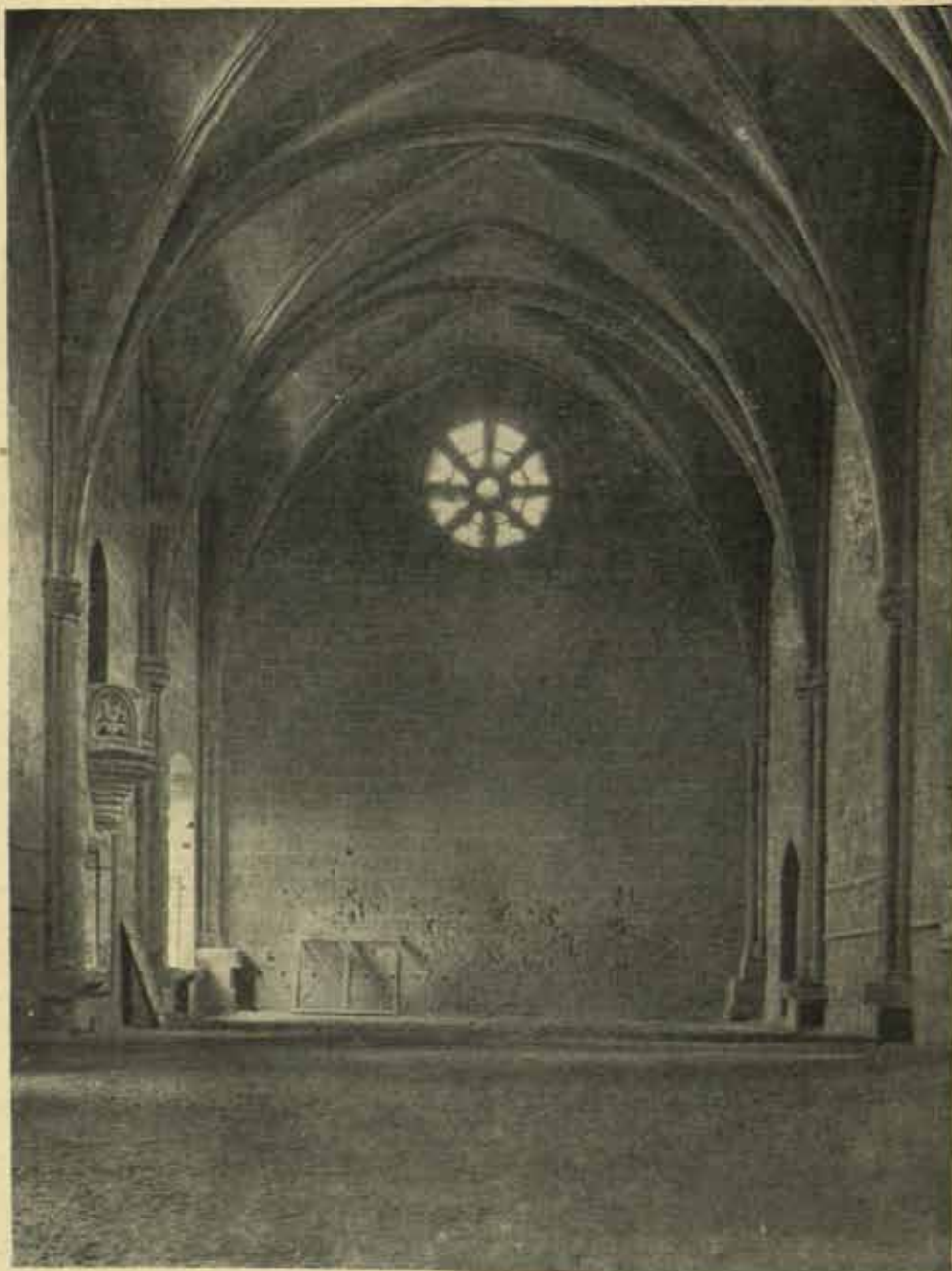
The doors and windows of the refectory were doubtless fitted with wood shutters, but there is no evidence of any glass frames or saddle-bars if the windows were glazed; in all probability they were not.

In the article on the "Cloister of Bella Paise," (JOURNAL R.I.B.A., 23rd May 1914), appear photos of the exterior of the west wall of the refectory with its new supports, and of the outside of the vaulting showing the layer of cement concrete which now forms its roof. The photos of the interiors of the refectory and its undercroft are from negatives kindly lent by His Excellency the High Commissioner of Cyprus, Sir H. Goold-Adams, G.C.M.G.

The singularly well-preserved wall pulpit of the refectory, used for the reading of books by one of the monks during the midday and evening meals, deserves a special mention. As M. Enlart remarks in his description of this feature, it is but a very poor example of such a design when compared with the finely-

carved specimens to be found surviving at St. Martin des Champs, Paris, or in our own very beautiful Beaulieu, Hampshire, but still, there is a certain originality about the design worthy of attention.

portions of the monastic buildings, and consequently any comparison between such different types of building would be useless. One of the largest refectories in England seems to have been the "Upper



Bella Paise Abbey, Cyprus: The Refectory.

English monastic ruins display few surviving examples of great vaulted areas such as form a characteristic of monastic architecture on the Continent. The refectory of an English monastery was invariably covered with a wood roof like most other

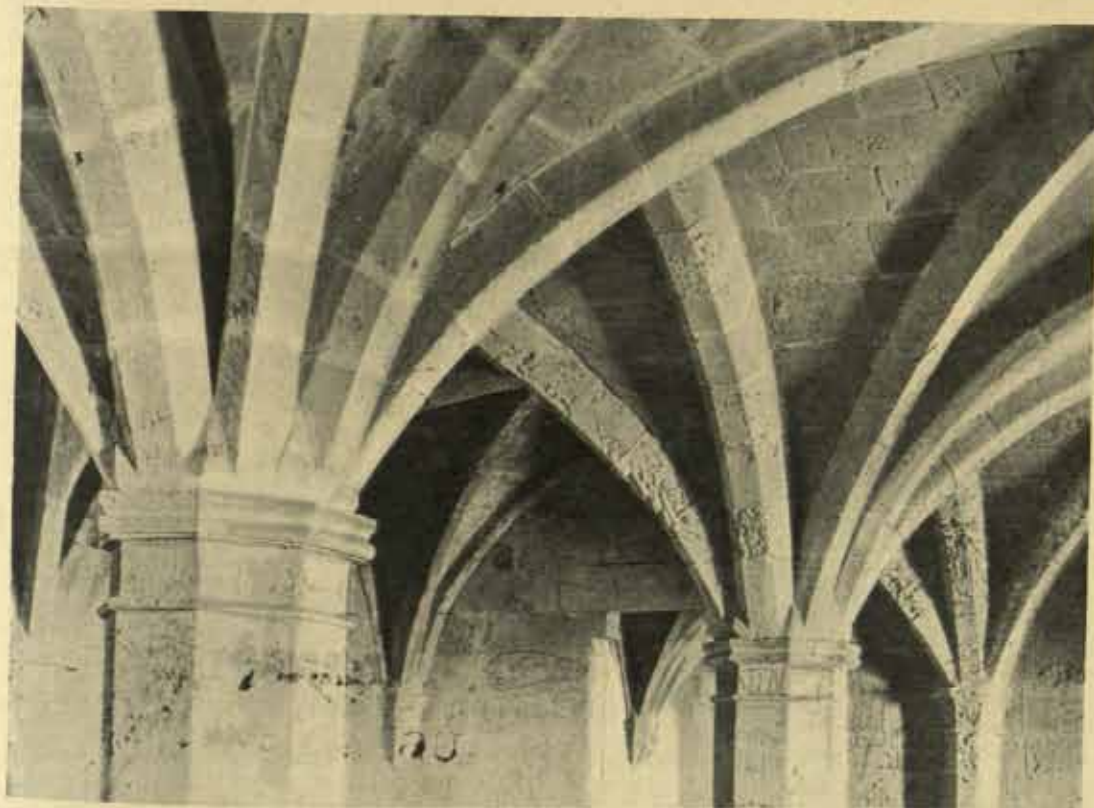
Frater" of the Dominicans, at Blackfriars, London. This was 107 feet by 52 feet, with the kitchen and buttery at its north end. After the suppression of the monastery the "Upper Frater" was known as the "Parliament Chamber," and here Henry VIII. held

parliaments, and also caused the trial of his divorce from Catherine of Aragon to take place. In the days of Shakespeare the "Parliament Chamber" was turned into the famous Blackfriars Theatre, and by a marvellous coincidence the play of "Henry VIII." was no doubt acted in this very chamber where the real drama of the divorce had taken place nearly a century before. (*Vide "Archæologia,"* vol. 63, p. 75.)

The Fraternity or Refectory of a mediæval monastery was doubtless often found to be of a very suitable size and form for many uses of a public nature. The refectory of Bella Paise has been used as the village school and for various purposes. In 1878 the English soldiers, who suffered much from fever at the first

times the building of a cellar or magazine would hardly as a rule be the subject of such architectural treatment. But in the present case it may be remarked that the rebuilding of the monastery of Bella Paise by King Hugh IV. de Lusignan, in 1359, was a royal act, and was probably intended to be worthy of the royal munificence. The refectory with its undercroft is the only portion of this magnificent building which remains intact, a worthy compeer of the royal church buildings of Europe at the same period.

In the obscure folk-lore of Cyprus the refectory of Bella Paise figures as a strange memorial of some mysterious "queen"; everywhere in the island this mysterious—or a mysterious—royal personage is



Bella Paise Abbey, Cyprus: Undercroft of Refectory.

occupation, camped near the Abbey, and converted the refectory into a temporary hospital, and here several men of the "Black Watch" died who are buried at Kyrenia.

The undercroft of the refectory forms two very imposing vaulted apartments. There is little doubt that these chambers were built to serve as the cellarage, with a door and staircase at one end communicating with the kitchen, at the other by a large gate opening on to an inclined way leading up from a neighbouring road. Such a cellarage gives a singular impression of the care and elaboration of detail with which even so inferior a portion of the premises was designed in the fourteenth century. In subsequent

association with ruins, rocks, and localities, but it is difficult to understand if anything historical survives in such vague legends. Of all such legendary associations, that of King Hugh IV. and his queen, Alix d'Ibelin, with Bella Paise would certainly be the most probable. In reference to this association the following inscription, on a white marble slab, has been inserted in the masonry of the new buttress which was built in 1912 to support this magnificent refectory:

ABBATIVM PHAEMONSTRATENSE ANNO SALVTIS MCC.
AB HUGONE IV REGE REAEDIFICATVM MCCCLIX.
A CVRATORE MON.ANT.EVSVMPTIBVS ANERARI.
CYPRI RESTITVTVM ANNO MCMXII.



9 CONDUIT STREET, LONDON, W., 20th February 1915.

CHRONICLE.

The London County Council (General Powers) (No. 2)
Bill: The R.I.B.A. Petition Against.

The Council of the Royal Institute, acting on the recommendation of the Science Standing Committee, have lodged a Petition in Parliament against the London County Council (General Powers) (No. 2) Bill, praying to be heard by counsel, etc. The objections to the Bill are set out in the Petition, of which the following is the full text:—

To the Honourable the Commons of the United Kingdom of Great Britain and Ireland in Parliament assembled.

The HUMBLE PETITION of the ROYAL INSTITUTE OF BRITISH ARCHITECTS under their Common Seal,

SHEWETH:—

1. A Bill (hereinafter called "the Bill") promoted by the London County Council (hereinafter called "the Council") is now pending in your Honourable House intitled "A Bill to confer further powers upon the London County Council with regard to Parks and Open Spaces, the Drainage of Premises in the Administrative County of London and other matters to confer various powers upon Metropolitan Borough Councils and for other purposes."

2. The Preamble of the Bill recites inter alia that the provisions contained in the Bill for preventing the flooding of houses and buildings and for regulating the erection rebuilding adaptation or use of houses and buildings on low lying land should be enacted.

3. Part III (Clauses 6 to 17) of the Bill relates to drainage of premises. By Clause 6 it is proposed to enact that from and after the passing into law of the Bill it shall not be lawful within the Administrative County of London to erect any house or building or to rebuild any house or building which has been pulled down to or below the ground floor or destroyed down to or below such level by fire or other casualty or demolished or removed from any other cause or to occupy any house or building so erected or rebuilt unless the drains required to be provided therefor be constructed at such level and with such fall as effectually to convey at all times the drainage from every part of such house or building into a sewer by gravitation under all conditions of flow in such sewer. Provided that in the case of any house or building with respect to any part or parts of which it is impracticable to comply with the conditions as to the construction of drains hereinbefore referred to the prohibition contained in the foregoing pro-

visions of this section shall not apply to such house or building if and so long as (in addition to the provision of drains complying with the said conditions for those parts of such house or building with respect to which it is practicable so to do) pumping or lifting apparatus is provided and used so as to pump or lift the drainage from such first-mentioned part or parts into a drain complying with the conditions hereinbefore referred to at such a level and in such a manner and by means of such connections as to prevent at all times and under all conditions any flowing back into any part or parts of such house or building of drainage or sewage from such drain or from any sewer with which it is connected and any such pumping or lifting apparatus and connections shall be deemed to be a drain.

4. By Clause 7 of the Bill it is proposed that where any part of a house or building cannot in the opinion of the Council be drained by gravitation into a sewer under all conditions of flow in such sewer the Council may require the owner of such house or building (a) to make alterations of and additions to the drainage system of such house or building or to provide a new and substituted drainage system therefor and (b) to fill in or close or otherwise discontinue or prevent the use for any purpose of the whole or any part of any basement floor cellar or area in under or adjoining such house or building. It is also proposed that the Council shall repay to the owner the reasonable expense incurred by him in complying with the requirement of the Council.

5. By Clause 8 of the Bill the Council are empowered to execute the drainage and other works in such house or building on default by the owner so to do, by Clause 9 the owner is to maintain at his own expense and to the satisfaction of the Council any works carried out under Clause 6 and to be liable to penalties on failure to maintain the said works to such satisfaction, by Clause 10 the owner of any house or building in which any works are required to be executed or maintained under Part III of the Bill is empowered to enter such house or building or any part thereof and do all such things as may be necessary or proper for the purpose of executing or maintaining such works, by Clause 11 it is provided that the expense of maintaining any works pursuant to Clause 9 may be apportioned by a County Court among the several persons entitled to any estate or interest in the house or building affected, Clause 12 contains provisions relating to arbitration as to incidence of damage sustained by the occupier of any house or building in which the works are executed or maintained and by Clause 15 power is conferred on authorised officers of the Council to enter and inspect houses and buildings.

6. Part IV, (Clauses 18 to 22) of the Bill relates to buildings on low lying land. By Clause 19 it is proposed to repeal Part XI (Dwelling houses on low lying land) of the London Building Act 1894 (hereinafter called "the Act of 1894") and to enact new provisions in lieu thereof. By Clause 20 it is proposed that it shall not be lawful for any person upon land of which the surface is below the level of five feet six inches above Trinity high-water mark and which is so situate as not to admit of being efficiently drained at all times by gravitation into an existing sewer of the Council under all conditions of flow in such sewer (whether any building has been previously erected on such land or not) to erect any building or to rebuild any building which has been pulled down to or below the ground storey or destroyed down to or below such level by fire or other casualty or demolished or removed from any other cause or to adapt or use any building for any purpose for which the same was not used at the date of the passing

of this Act except with the permission of the Council and subject to and in accordance with such regulations as the Council may prescribe with reference to the erection of buildings on such land, and the Council are empowered by such regulations to prohibit and/or regulate the erection or rebuilding or the adaptation or use as aforesaid of any buildings on such land or on any defined area or areas of such land and to prescribe the level at which the under side of the lowest floor of any permitted building shall be placed on such land or on any defined area or areas of such land and as to the provision to be made and maintained by the owner for securing the efficient and proper drainage of the buildings either directly or by means of a local sewer into a main sewer of the Council. It is also provided by Clause 20 that any person seeking to erect or rebuild or to adapt or use as aforesaid any building or any part of a building on any of such land shall apply to the Council for a licence for that purpose and thereupon the Chief Engineer of the Council shall decide whether and if so upon what conditions such erection rebuilding adaptation or user may be permitted with a right of appeal to the Tribunal of Appeal constituted by the Act of 1894 by such person respecting the refusal of the Council to permit such erection rebuilding adaptation or user or the regulation made by the Council under Part IV of the Bill or to any decision of the said Engineer or as to the reasonableness of any requirement or condition made by him.

7. The Royal Institute of British Architects was founded in the year 1834 and by various Charters constituted a body politic and corporate with perpetual succession and a common seal for the purpose of forming an institution for the general advancement of architecture and for promoting and facilitating the acquirement of the knowledge of the various arts and sciences connected therewith. Under the provisions of their Charters your Petitioners' Institute has taken into alliance twenty-one architectural societies acting in the principal cities and towns in the United Kingdom and in the British Empire.

8. Your Petitioners' Institute as the only chartered body of architects in the United Kingdom accepts and claims as part of its responsibility and public duty the function of tendering advice to the Government and the Council on all legislation bye-laws and regulations pertaining to architecture and building generally and under Sub-section (4) of Section 164 of the Act of 1894 notice has to be given to the Institute of all bye-laws proposed by the Council "before applying to the Local Government Board for the allowance of any such bye-laws." The advantage to the community of having at its disposal the technical advice and experience of a body of experts is admitted on all hands and it has been the practice of Government Departments as well as of the Council to avail themselves of this advice and experience and the principle is recognised not only in the Metropolis Building Act, 1855, but also in Section 16 of the Metropolis Management and Building Acts Amendment Act, 1878. Since then your Petitioners have been consulted by the Council in connection with among others the Bills for the London Building Acts, 1894 to 1908, and the provisions relating to buildings of the Bill for the London County Council (General Powers) Act, 1909, and the advice tendered by your Petitioners has led to many alterations in proposals as first submitted to Parliament and which as altered have subsequently become law. Your Petitioners have also been consulted with regard to bye-laws made from time to time by the Council under the above-mentioned Acts.

9. Your Petitioners as representing the general interests

of architecture in London and elsewhere allege that those interests are injuriously affected by the Bill and they object thereto for the reasons with others hereinafter stated.

10. Your Petitioners submit that the provisions of the London Building Acts and other Acts now in force are sufficient to secure the proper and efficient drainage of buildings. No further extension thereof in the manner proposed by the Bill is necessary and apart from this your Petitioners object to the proposals of Clause 6 of the Bill as being unworkable. It would be practically impossible to ensure that any house or building shall at all times be capable of being efficiently drained by gravitation into a sewer of the Council under all conditions of flow in the sewer inasmuch as there is the possibility of sewers under certain conditions as well as the drains in connection with houses and buildings being fully charged with storm water thus temporarily delaying the discharge into the sewer. The sewers of the Council are provided at intervals with pumping stations and their existence would further complicate the condition of matters as during the period of heavy storms they are or may be insufficient to cope with the rush of water and in such event it would be impossible even in the cases of houses or buildings in which pumping or lifting apparatus is provided as proposed by Clause 6 of the Bill to prevent at all times and under all conditions any flowing back into any part or parts of such houses or buildings of drainage or sewage from any drain or sewer with which they are connected.

11. Your Petitioners also object to Clauses 7 and 8 of the Bill and for the above and other reasons submit that it is not expedient to empower the Council to require the owner of a house or building part whereof cannot in the opinion of the Council be drained by gravitation into a sewer under all conditions of flow in such sewer to make alterations of and additions to the drainage system of such house or building or to provide a new or substituted drainage system therefor and to fill in or to close or otherwise discontinue or prevent the use for any purpose of the whole or any part of any basement floor cellar or area in under or adjoining such house or building and on failure of the owner to comply with the requirements of the Council for the Council to themselves execute the works. No provision is contained in the Bill for any appeal against the decision of the Council. The powers proposed to be conferred on the Council by Clauses 7 and 8 would if sanctioned have a very serious effect on the value of property and in many cases the abolition of basements would render the whole of the building useless for the purposes for which the same has been or may be erected. In numerous trades and businesses rooms below the level of the ground storey for storage and other purposes are absolutely essential.

12. Although by Clause 12 of the Bill it is proposed that compensation shall be paid to the occupier of any house or building for any damage sustained by reason of the execution or maintenance of works under Part III of the Bill there is no provision in the Bill for adequate compensation being paid to the owner of such house or building for any loss occasioned to him by reason of the execution of the works or depreciation in the value of the property resulting therefrom.

13. Your Petitioners also object to the proposed repeal of Part XI (Dwellinghouses on Low-lying Land) of the Act of 1894 and to the powers sought by the Council under Part IV of the Bill in lieu of the said Part XI.

The effect of the alterations in the existing law proposed by Clause 20 of the Bill would be far reaching. Under Section 122 of the Act of 1894 low-lying land is referred to

as land the surface of which is below the level of Trinity high-water mark but by Clause 20 of the Bill low-lying land comprises land of which the surface is below the level of five feet six inches above that mark. This would mean that the provisions of Part IV of the Bill would affect an enormous area of land within the Administrative County of London not at present coming within the scope of the Act of 1894.

14. Under the existing law only "dwellinghouses" are included in Section 122 of the Act of 1894 but by Clause 20 of the Bill it is proposed to substitute "buildings" for "dwellinghouses" and this expression would comprise dwellinghouses factories buildings of the warehouse class public buildings and also any little accessory such as a coal shed. The result would be that no building however small and whether for habitation or not or part of a building could be erected within the low-lying area without the consent of the Council and the delay consequent on the necessary application for and procedure relative to obtaining such consent. Further, any building of which the nature of the tenancy is changed after the passing into law of the Bill would be brought within the range of Part IV of the Bill. Your Petitioners submit that there is no justification for such a drastic extension of the existing law and that any alteration therein that may be necessary should be made applicable only to premises that are known to be subject to or are liable to back flooding—a very small proportion of the buildings situate within the low-lying area referred to in Clause 20 of the Bill.

15. Notwithstanding the limited application of Part XI of the Act of 1894 the present system of compelling applications to the Council for consent to the erection of dwellinghouses on low-lying land is unduly onerous but with the proposed extension of area and the inclusion of fresh classes of buildings within the scope of the Bill the inconvenience of such a system will be greatly aggravated. No compensation is provided in the Bill for the injury and loss which will or may be sustained by owners of property by the exercise of the powers sought by the Council in Part IV of the Bill.

16. Your Petitioners also object to the provisions of Clause 20 of the Bill prohibiting the erection rebuilding or adaptation for use of any building on low-lying land which is so situate as not to admit of being efficiently drained at all times by gravitation into an existing sewer of the Council under all conditions of flow in such sewer on the grounds stated in paragraph 10 of this Petition.

17. The effect of Parts III and IV of the Bill if passed into law as proposed will be very far reaching will greatly interfere with the reasonable development of property and will unduly hamper building operations to the prejudice of the members of your Petitioners' Institute.

18. For the foregoing with other reasons your Petitioners submit that the proposals of Parts III and IV of the Bill are unnecessary and uncalled for in the public interest and should not be sanctioned.

19. The Preamble of the Bill so far as it relates to the matters aforesaid is incapable of proof.

YOUR PETITIONERS therefore humbly pray your Honourable House that the Bill may not pass into a law as it now stands and that they may be heard by their Council Agents and Witnesses against the Preamble of the Bill and such of the clauses and provisions thereof as affect their rights and interests and in support of other clauses and provisions for their protec-

tion and that they may have such other and further relief in the premises as to your Honourable House may seem meet.

AND YOUR PETITIONERS will ever pray, etc.

Seal of the
Royal Institute
of British
Architects.

ERNEST NEWTON, *President R.I.B.A.*

H. V. LANCHESTER } Members of
ALFRED W. S. CROSS } Council
T. EDWIN COOPER } R.I.B.A.

IAN MACALISTER, *Secretary R.I.B.A.*

The following is a list of the petitioners against the Bill praying to be heard by Counsel:—

1. Southwark Borough Council.
 2. Corporation of the Hall of Arts and Sciences.
 3. Port of London Authority.
 4. Hackney Borough Council.
 5. Corporation of London.
 6. Camberwell Borough Council.
 7. Hammersmith Borough Council.
 8. Holborn Borough Council.
 9. Ecclesiastical Commissioners for England.
 10. St. Marylebone Borough Council.
 11. Woolwich Borough Council.
 12. Wharfingers' Association.
 13. Surveyors' Institution.
 14. London & North Western Railway Co.
 15. Westminster City Council.
 16. Joint Committee Bermondsey and other Borough Councils.
 17. Joint Committee Battersea and other Borough Councils.
 18. Metropolitan Water Board.
 19. Greenwich Borough Council.
 20. Lord Llangattock and James Robert West.
 21. Royal Institute of British Architects.
 22. Gas Light & Coke Company, South Metropolitan Gas Company, and the Commercial Gas Company.
 23. North London Railway Company.
 24. Royal Arsenal Co-operative Society.
 25. Honourable Society of the Inner Temple.
 26. Honourable Society of the Middle Temple.
- Chelsea Borough Council (not praying to be heard).

Telephones in Large Buildings.

The following communication, addressed to the Royal Institute of British Architects under date 2nd February, has been received from the General Post Office:—

"The Postmaster-General wishes to call attention to the importance of making adequate arrangements in the plans of large buildings for the installation at a later stage of telephone equipment. Failure to do so leads to complaints owing to the inevitable interference with the structure and decorations of the building, and the noise caused by piercing walls and floors. It also delays the installation of the telephone and increases the costliness of the work involved.

"In these circumstances it is to the advantage of all concerned to make adequate provision for telephone, as well as for light, water, and other services, in designing a building, and it has occurred to the Postmaster-General that the members of the Royal Institute of British Architects may be glad to have some information as regards the accommodation required for this purpose.

"For the telephone service of a large building provision should be made, as a minimum, for one 3-inch

pipe from the public footway to the basement or ground floor, and for cables to the other floors. It is also desirable that there should be a ready means of leading wires to the various rooms on the different floors. The precise requirements vary according to circumstances, but they can be definitely ascertained in any particular instance from the local Post Office Engineer, whose address may be obtained at the nearest telegraph office."

Memorandum for Arbitrators.

In order to minimise the risk to Arbitrators of arbitration proceedings being abandoned and Awards not taken up, the Institute thinks it desirable to point out to its members that it is not inconsistent with professional etiquette for them before entering on a Reference to demand an undertaking from both or either of the parties to take up the Award within a time to be specified, and in any event to pay the Arbitrator's fees. Also in cases where the Arbitrator considers it desirable it is quite permissible for him to require a payment in advance on account of his charges.

London of the Future: The London Society's Scheme.

The January number of the *Journal of the London Society* reports the progress that is being made with its scheme for a Development Plan of Greater London of the Future, some particulars of which were given in the *JOURNAL R.I.B.A.* for the 5th December. The preparation of the Plan is giving employment to a number of professional men whose ordinary work has been entirely stopped or seriously interfered with by the War, and who are working under the direction of a strong Committee of experts appointed by the Society for the purpose and who are prepared to give their time and experience to the work. Since the New Year work has been proceeding in earnest. The area of operations has been divided into six sections, corresponding to the subdivisions of the Local Government Board Conferences on Arterial Roads, each of these sections being in the charge of a gentleman with special knowledge of the locality.

The Committee of Guidance consists of Sir Aston Webb, K.C.V.O., C.B., R.A., *Chairman*; Mr. Carmichael Thomas; Mr. Raymond Unwin, Chief Town Planning Inspector to the Local Government Board; Professor Adshead, *N.W. Section*; Mr. Arthur Crow, *N.E. Section*; Mr. W. R. Davidge, *S.E. Section*; Mr. D. Barclay Niven, *S. Section*; Mr. H. V. Lanchester, *S.W. Section*. It was hoped that Mr. Raymond Unwin would have directed the work in the Northern Section, but his duties at the Local Government Board make it impossible for him to do so. He, however, remains on the Committee in a general capacity.

Each of the proposed new Arterial Roads is to be studied in turn, and suggestions for its treatment will be discussed by the Committee of Guidance in relation to the other Sections, and in connection with the question of future open spaces. At the present time the services of four gentlemen have been secured to

work upon the Roads in the North-West, South-West, South, and South-Eastern Districts, and it is hoped that the Committee will shortly be in a position to appoint two more. Valuable assistance has been afforded by Colonel Hellard, of the Traffic Branch of the Board of Trade, in giving the Society's draughtsmen access to the details in his possession with reference to the lines of road he has adopted after long and careful consideration of the subject. His help is of further value in that he has been enabled to bring his information with regard to lately developed areas practically up to date. The majority of Ordnance maps are so many years behind the times that the information thus secured would otherwise have only been obtained by an actual survey of the sites in question.

Money is wanted, however, not only to provide the salaries of those employed on the work and also to allow of the purchase of the necessary ordnance and other maps, but also for travelling expenses, which are bound to be heavy, as the distances to be traversed in inspecting the lines of the various Roads are considerable. The Artists' General Benevolent Institution and the Architects' Benevolent Society have made generous contributions to the funds, and the support of professional men generally is urgently appealed for.

The Rebuilding of Belgium after the War.

The first of what is expected to be a series of Conferences, initiated by the International Garden Cities and Town Planning Association, for securing proper consideration of the rebuilding of Belgium after the War, took place from the 11th to the 15th inst. The Conference was held at the Guildhall, and was presided over by M. Helleputte, the Belgian Minister of Agriculture and Public Works. The Lord Mayor, who was accompanied by the Sheriffs, cordially welcomed the delegates; and Mr. Herbert Samuel, as President of the Local Government Board, the Department responsible in respect of schemes of town planning, conveyed to the gathering the good wishes of His Majesty's Government. There were present delegates from Belgium, and also from France, Russia, Holland, Spain, Italy, the United States, and Canada. The King of the Belgians sent a letter expressing his gratitude to the promoters of the Conference for the help they were giving in the endeavour to raise Belgium again out of her ruins.

Mr. Herbert Samuel, in addressing the gathering, said that among the refugees, nearly 200,000 in number, whom we had with us there were about 200 architects and surveyors, and it was the idea of the promoters of the Conference to bring together these professional men and to place at their disposal our experience in the development of towns on modern lines. The promoters were far from supposing that methods which were good for England were necessarily good for Belgium. The towns of different countries had their distinguishing characteristics, and one would be sorry to see them merged in any kind of uniformity, however attractive the model. Yet certain principles, if well considered and well founded, might be of universal application.

Mr. Ewart G. Culpin, Secretary of the International Garden Cities Association, in a Paper on "The Principles of the

Garden City Movement and their Application to Belgium," said that only by co-operation could the vast work of reconstruction in Belgium be carried out in a manner worthy of her history and tradition. In the old days, when the beautiful cities of Flanders grew into being, men strove together in the arts of peace, and vied to produce buildings individually pleasing to the eye and collectively forming a picture of grace and beauty which had ever since attracted the student from all parts of the world; but in these days, and especially the days they were looking forward to when rebuilding would begin, it was terrible to think of what would be the effect if each owner of each site erected his own house according to his own idea without relation either to its neighbours or to the street in which it was placed. We in England have many examples of what that has produced, but we were beginning now to have examples of what co-operation could secure.

M. J. J. Caluwaerts [*Hon. Corr. M.*], Member of the Belgian Royal Commission on Monuments, pointed out that land in Belgium was very much more sub-divided than in this country, and this fact presented great difficulties in the way of town-planning projects.

The rest of the discussion at this sitting concerned the principles on which the garden cities and suburbs of England had been established.

The week-end was spent by the delegates in visiting the Garden City at Letchworth and the Garden Suburb at Hampstead.

At the resumed sitting on the 16th inst., when the Belgian Minister again presided, Mr. Raymond Unwin, Chief Town-Planning Inspector to the Local Government Board, read a Paper on "The Principles of Legislation in respect of Town Planning." The fact, he said, that town-planning schemes were limited to strictly circumscribed areas was the cause of many difficulties. He was of opinion, therefore, that the plans for the rebuilding of Belgian cities should take in nearly the whole country, and that in consequence the authorities who ought to take the matter in hand were both the State and the municipal and the provincial authorities, in order that overlapping might be avoided.

Professor Van Hecke, of the University of Louvain, read a Paper on "The Belgian Law relating to Building," and Mr. Henry R. Aldridge, Secretary of the National Housing and Town-Planning Council, read a Paper entitled "The First Steps," in which, touching on the question of the cost of rebuilding the Belgian cities, he said that the Allies would cheerfully come to the aid of the Belgian people.

The President, in summing up the discussions, said that there were certain broad principles on which they were all agreed, and he suggested that these should be carried unanimously in the form of resolutions.

The resolutions, after expressing general agreement with the principles of the Garden Cities and Town Planning Association, recommended that plans in harmony with those principles should be prepared of the towns and villages that have been wholly or partially destroyed in Belgium; that recommendations should be made with regard to width of streets, etc., with a view to securing hygienic conditions for the inhabitants; and that the distribution of State grants should be made subject to the adoption and execution of plans of laying-out, extension, and improvement. These resolutions were carried unanimously.

Licentiatees and the Fellowship.

The following Licentiatees have passed the Examination qualifying for candidature as Fellows:—

BAILY: Harold; 198 Park Road, Crouch End, N.
BLACK: Alfred Barham; Gilbert, Adelaide, S. Australia.
COOKE: Samuel Nathaniel; 117 Colmore Row, Birmingham.
JENKINS: Gilbert Henry; 6 Old Bond Street, W.
SWAN: James A.; 56 Newhall Street, Birmingham.
STUART: John; County Hall, Wakefield, Yorks.
TAYLOR: Thomas Lumsden; 212 Bath Street, Glasgow.
CARLESS: William Edward; 49 Beaver Hall Hill, Montreal.

The Professional Classes and the War.

The Archbishop of Canterbury and Sir John McClure were the principal speakers at the Mansion House on the 16th inst., when a meeting summoned by the Lord Mayor was held in support of the Professional Classes War Relief Council. "Poverty is not a statistical question to be decided by rule-of-thumb," said the Archbishop in drawing a comparison of the effects of the war amongst the lower and the middle classes. The War pressed with exceptional severity on the professional classes. Scores and scores of competent men were being thrown out of employment through the curtailing of expenditure, and it was in order to assist them that the Council had been formed.

Sir John McClure said that the family should be regarded as the unit, and the credit of all the professions should be pooled to help those who were unfortunate. He laid stress on the fact that the Council was averse to a policy of doles, and described how it relieved distress by finding temporary work for those who needed it and in other ways helped them to maintain their position. He also asked for help to make loans, for which a special fund had been opened at Coutts' Bank.

Sir Beerbohm Tree and Sir George Alexander also spoke, referring to the splendid efforts of those in the theatrical profession to help their fellows.

It was stated that the United Arts Fund Committee had since the war began made grants to various societies amounting to £2,360, and their expenses had been limited to £53.

Sir Edward Clarke, who had promised to be present, wrote that he was suffering from influenza, and enclosing a cheque for 100 guineas as a contribution to the Council's funds.

Subscriptions should be sent to the Treasurer, Professional Classes War Relief Council, 13 and 14 Prince's Gate, S.W.

THE EXAMINATIONS.

The Final: Designs approved.

The Board of Architectural Education announce that the designs submitted by the following Students have been approved:—

SUBJECT XVIII.

(a) DESIGN FOR AN ORGAN-CASE IN A CIRCULAR HALL.
Foot: A. A. Hull: V. Sanders: T. A.
Gordon: P. J. Knight: W. G. Tebbutt: H. J.
Lawson: J. Scott.

(b) DESIGN FOR A GROUP OF SMALL DWELLINGS.
Brown: W. J. Keep: N. Philp: A. T.
Cash: H. W. Knight: S. Pieton: C. S.
Filkins: E. W. Luyken: H. M. Routley: L. J.
Gordon: P. J. Lyne: E. Jun. Saxon: F. C.
Hall: R. B. Medd: H. A. N. Taylor: M. B.
Holden: W. Minns: S. E. Thomas: D. R.
Jackson: R. Mitchell: C. H. Whitehead: P.
Kassem: H. Z. Moss: D. J. Wilkinson: F.

Designs for other subjects, from the following candidates, have also been approved:—

Ap Gruffydd: C. O. Gray: G. H. Wood: A. G.
Fisher: H. N. Moore: R. S.

CORRESPONDENCE.

The Second Temple of Artemis at Ephesus.

9 Feb. 1915.

To the Editor, JOURNAL R.I.B.A.

SIR.—I would gladly have anticipated Professor Lethaby's article in the JOURNAL of 6th February, simply because I realised some measure of apology was due to him immediately after I had read Mr. Henderson's letter in the previous issue of the JOURNAL.

Though it is true that I was privileged to have Professor Lethaby's criticism on my drawing, and his general approval of it, this was at least four years ago, so that I am fully aware I cannot claim his recognition of it as a restoration of his own. It would have been better had I not labelled the published drawing "as restored by Professor Lethaby," but "drawn by the author after a study of Prof. Lethaby's pamphlet and some reference to Wood's 'Ephesus.'"

I regret also that I did not refer to my drawing as merely a diagram, intended to show general proportions only. It cannot pretend to be a study of the front of the temple.

I read Mr. Henderson's letter with interest, but consider Professor Lethaby's arguments as essentially sound. Subject to the fact that I am not competent to discuss the question of the ninth column from my present study of the evidence, I have indeed nothing but admiration for these arguments, daring as they are in places.

THEODORE FYFE [F.].

MINUTES. VII.

At the Seventh General Meeting (Ordinary) of the Session 1914-15, held Monday, 1st February 1915, at 8 p.m.—Present: Mr. George Hubbard, F.S.A., Vice-President, in the Chair; 34 Fellows (including 8 members of the Council) and 15 Associates (including 4 members of the Council)—the Minutes of the Meeting held 18th January 1914, having been published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary announced the decease of Henry Seton-Morris, elected Associate 1909, Fellow 1914; Francis Thomas William Miller, Associate, elected 1881, and Christopher Boswood Thomas, Associate, elected 1901.

The following candidates were nominated for election:—As Associate, James MacGregor; As Hon. Associate, Walter Peacock, Treasurer to H.R.H. the Prince of Wales.

The Chairman announced that the Council proposed to submit to His Majesty the name of Frank Darling, of Toronto, as a fit recipient of the Royal Gold Medal 1915, for his executed works as an architect.

Consideration was resumed of the draft Revised Schedule of Professional Charges (adjourned from the meeting of 9th March 1914), commencing with Clause 10, which was passed as printed in the draft:—

Clause 10.—For setting out on an estate the position of proposed roads, taking levels and preparing drawings for roads and sewers, applying for the sanction of local authorities, and supplying copies of drawings for this purpose, the remuneration is 2 per cent. on the estimated cost of the proposed works. For preparing working drawings and specifications of roads and sewers, obtaining tenders, advising on tenders, and, in preparation of contract, supplying one copy of drawings and specification to the Contractor, General Superintendence as above defined, issuing certificates and passing and certifying accounts, the remuneration is 3 per cent. on the total cost of the works in addition to

the 2 per cent. previously mentioned. These percentages shall cover the specific services mentioned in this clause or their equivalent, and the percentage on the total cost shall be payable by instalments from time to time as the work proceeds on the issue of certificates to the Contractor. For other services in connection with setting out land, including the measurement and valuation of deviations, alterations, additions and omissions, separate charges are to be paid in accordance with Clause 8.

In Clause 11 it was agreed to delete the words "on the total cost" following the percentage, and the clause was passed as follows:—

Clause 11.—For approving plans submitted by a Lessee, and for inspecting the buildings during their progress, so far as may be necessary to ensure the conditions being fulfilled, and certifying for lease when required, the remuneration is as follows:—

For each £100 or part of £100 of the total cost up to £500, 2½ per cent.

For each £100 or part of £100 of the total cost, from £500 to £5,000, 1½ per cent.

For each £100 or part of £100 of the total cost above £5,000, 1 per cent.

Clause 12 was passed without amendment as follows:—

Clause 12.—For estimating dilapidations and furnishing or checking a schedule of the same, the remuneration is 5 per cent. on the estimate, the minimum fee being £3 3s. 6d. For negotiating settlement of claim, and for other services, separate charges are to be paid in accordance with Clause 8.

A proposition by Mr. Herbert Shepherd [A.], seconded by Mr. Percival M. Fraser [A.], that Clause 13 be amended, or a fresh clause be introduced, to provide that "services in respect of notices by local or other authorities under any Acts of Parliament, Regulations, or Bye-laws shall be special services paid for in accordance with Clause 8," was discussed but was ultimately withdrawn. Mr. Shepherd agreeing to leave the point to the judgment of the Institute solicitors, to include or not, as they think fit.

Clause 13 was then passed as printed in the draft:—

Clause 13.—For inspecting, reporting, and advising on the sanitary condition of premises, the charge is in accordance with Clause 8, the minimum fee being £3 3s. 6d. in addition to the cost of assistance and appliances.

In Clause 14 the words "the minimum fee being £3 3s. 6d." were transposed from the third to the first sentence and the clause agreed to:—

Clause 14.—For valuing property for whatever purpose, except as provided in Clause 15, the remuneration is as follows:—

For each £100 or part of £100 of the value up to £1,000, 1 per cent., the minimum fee being £3 3s. 6d.

For each £100 or part of £100 of the value from £1,000 to £10,000, ½ per cent.

For each £100 or part of £100 of the value above £10,000, ¼ per cent.

Clause 15 was agreed to as printed in the draft:—

Clause 15.—For valuing and negotiating the settlement of claims under the Lands Clauses Consolidation Acts, or other Acts for the compulsory acquisition of property, the remuneration is on Ryde's Scale as follows:—

On Amount of Settlement, whether by Verdict, Award, or otherwise.

* Amount	£s.	d.	* Amount	£s.	d.	* Amount	£s.	d.	* Amount	£s.	d.
100	5	1,200	19	5,200	20	5,200	20	7,200	40	9,200	50
200	7	1,400	30	5,400	30	5,400	30	7,400	50	9,400	60
300	9	1,600	31	5,600	31	5,600	41	7,600	51	9,600	61
400	11	1,800	32	5,800	32	5,800	42	7,800	52	9,800	62
500	13	2,000	33	6,000	33	6,000	43	8,000	53	10,000	63
600	14	2,200	34	6,200	34	6,200	44	8,200	54	11,000	64
700	15	2,400	35	6,400	35	6,400	45	8,400	55	12,000	65
800	16	2,600	36	6,600	36	6,600	46	8,600	56	13,000	66
900	17	2,800	37	6,800	37	6,800	47	8,800	57	14,000	67
1,000	18	3,000	38	7,000	38	7,000	48	9,000	58	15,000	68
										20,000	113

Beyond this Half-a-Guinea per cent.

Such remuneration shall not include the preparation of plans or attendances in Courts, or before Arbitrators or other tribunals.

On Clause 16, Mr. S. Douglas Topley [A.] having moved the deletion of the clause on the ground that the business referred to therein was estate agents', not architects' work, the proposition was put to the Meeting, and defeated by 21 votes to 13.

An amendment by Mr. Alex. N. Paterson [F.] to alter the opening words of the clause so as to read "For advising with regard to the purchase of estates," was defeated on a show of hands.

An amendment by Mr. Douglas Topley, seconded by Mr. W. R. Davidge [A.], that the opening words should read: "For negotiating the purchase of estates, houses and property previous to undertaking architectural work in connection with same, the remuneration is as follows," was defeated on a show of hands.

An amendment by Mr. Alfred W. S. Cross, *Vice-President*, seconded by Mr. Davidge, that the opening words should read: "If the services of an architect are required for negotiating the purchase of estates, houses and property, the remuneration is as follows," was defeated by 26 votes to 17.

Clause 16 was then put to the Meeting and carried by 30 votes to 12; with the insertion of the words "the minimum fee being £3 3s. 0d." after "2½ per cent.," as follows:—

Clause 16.—For negotiating the purchase of estates, houses and property the remuneration is as follows:—

For each £100 or part of £100 of the purchase price up to £500, 2½ per cent., the minimum fee being £3 3s. 0d.

For each £100 or part of £100 of the purchase price above £500, 1 per cent.

In Clause 17 the figure at the end was altered to "18" so as to read "Clause 18," and the clause was otherwise passed as printed in the draft:—

Clause 17.—For qualifying to give evidence, settling proofs, conferences with Solicitors and Counsel, attendances in Courts or before Arbitrators or other tribunals, and for other services in connection with litigation and arbitration, the charges are in accordance with Clause 18.

Clauses 18 and 19 were passed as printed in the draft:—

Clause 18.—In cases in which charges are based upon the time occupied they will depend upon the professional standing of the Architect, the minimum fee being five guineas per day.

Clause 19.—In addition to the above percentages and other charges, travelling and other out-of-pocket expenses are in all cases to be paid by the client. If the site is at such a distance as to lead to an exceptional expenditure of time in travelling, an additional charge may be made.

Mr. A. R. Jemmett [F.] moved that there be appended to the Schedule, as a note, No. 7 of the Council Resolutions as to Professional Conduct printed on page 70 of the *Kalendar*—viz.: "That in the opinion of the Council the businesses of auctioneering and estate agency are inconsistent with the profession of an architect."

The proposition, seconded by Mr. Davidge, was put to the Meeting and lost.

The Chairman agreed to a suggestion by Mr. Alan Munby [F.] that the charges in the Revised Schedule should be carefully checked to ensure that they are in no case lower than the Scale of the Surveyors' Institution.

The Revised Schedule, subject to the various amendments ordered by the General Body, was then put as a complete document and carried unanimously.

In reply to a question the Chairman stated that the Revised Schedule as amended would be submitted forthwith to the Institute solicitors and got ready for publication, and that it would come into operation as soon as the Council deemed the moment favourable.

On the motion of Mr. Herbert Shepherd the thanks of the Institute were accorded by acclamation to the members—Messrs. Atkin-Berry, Ernest Flint, Edward Greenop, George Hubbard, C. Stanley Peach, and W. Henry White—who had rendered such able service on behalf of the Institute and the profession at large in the compilation of the new Scale.

The Meeting closed at 9.45 p.m.

At the Eighth General Meeting (Ordinary) of the Session 1914-15, held Monday, 15th February 1915, at 8 p.m.—Present: Mr. Ernest Newton, A.R.A., *President*, in the Chair; 25 Fellows (including 11 members of the Council), 20 Associates, 10 Licentiates, 3 Hon. Associates, and numerous visitors—the Minutes of the Meeting held 1st February 1915 were taken as read and signed as correct.

The decease was announced of the following members:—Henry Dawson, elected *Associate* 1859, *Fellow* 1869; George Herbert Burstow, *Associate*, elected 1910; John James Smith,

Associate, elected 1882; Frederick Robert Edwin Sladdin, *Licentiate*.

The President, in accordance with the recommendation of the Board of Architectural Education, presented the Ashpitel Prize for 1914 to Mr. George Eric Francis [*Probationer* 1910, *Student* 1912], who was reported by the Board to have distinguished himself most highly in the Final Examinations of the year.

The President presented the Pugin Medal to Mr. William Cecil Young, who was awarded the Pugin Studentship last year and had fulfilled its conditions to the satisfaction of the Council.

Mr. And. N. Prentice [F.] read a Paper on ARCHITECTURAL SCULPTURE IN SPAIN and illustrated it by lantern slides.

A discussion on Mr. Prentice's Paper ensued, and on the motion of Mr. W. R. Colton, A.R.A., seconded by Professor Gerald Moira [*Hon. A.*], a vote of thanks was passed to Mr. Prentice by acclamation.

The proceedings closed at 9.45 p.m.

Surveyors' Institution Memorandum re Attendances on Sub-Contractors.

Mr. F. H. A. Hardcastle [A.] writes: "On page 466 of the *JOURNAL* for 6th February, par. beginning 'The word "attendance,"' in line 2 'castings' should read 'casings.' This is a misprint in the original circular issued by the Surveyors' Institution."

The Quebec Association of Architects.

The members of the Province of Quebec Association of Architects, allied to the R.I.B.A., have cancelled their annual banquet, and sent a subscription of \$85 to the *Fraternité des Artistes*, France, on behalf of the families of soldiers killed in the war. The Association has sustained a great loss by the death of Professor Doumic, one of its leading members, who was killed fighting with his regiment in France.

The War and the Wood-Carver.

Among the crafts hit by the War few are suffering more acutely than that of the wood-carver. It is understood that in London, despite the fact that some hundred or so have joined the Colours, two-thirds of the craft are workless, and the outlook for the future is as unpromising as anything could be. It is a lamentable state of things, bad not only for the worker, but for the art itself. Many a youth with natural talent for the work, seeing the distressing position of those whose livelihood it is, is deterred from taking it up as a career, and the art loses a promising exponent. The architect owes much to the wood-carver, for by the aid of the latter he is enabled to put those delicate touches to the picture in the solid which seem to wake it into life, and arouse in the mind of the beholder a sense of richness, of completion, and of satisfaction. As it was once put in a Paper on Wood-carving read at the Institute, "As the poet uses the rhythmic metre the better to express the flights of his fancy, so should the architect employ carving to raise his simple construction from the land of prose to the realm of poetry." The attention of readers is called to Mr. Aumonier's admirably presented appeal for the encouragement and support of his fellow-craftsmen printed on the back cover of the present issue.

Books received.

The Ancient and Medieval Architecture of India: A Study of Indo-Aryan Civilization. By E. B. Havell, Sm. 4s. Lond. 1915. 30s. net. [John Murray, Albemarle Street.]
Building Construction Drawing: A Class-book for the Elementary Student and Artisan. By Richard B. Eaton, Lecturer on Building Construction, Poole School of Art and Technology. Parts I. and II. 25 Plates in each Part. 1s. 6d. each Part. 4s. Lond. 1914. [E. & F. N. Spon, Ltd., 57 Haymarket.]
Spons' Architects' and Builders' Pocket Price Book, 1915. Edited by Clyde Young [F.] and Stanford M. Brooks [F.]. 42nd edit. 2s. 6d., by post 2s. 8d. [E. & F. N. Spon, Ltd., 57 Haymarket.]



Tomb of Martín Vasquez de Ares, Cathedral of Sigüenza.



Tomb of the Constable Don Pedro de Velasco and his Wife, Burgos Cathedral.

ARCHITECTURAL SCULPTURE IN SPAIN.

By AND. N. PRENTICE [*F.*].

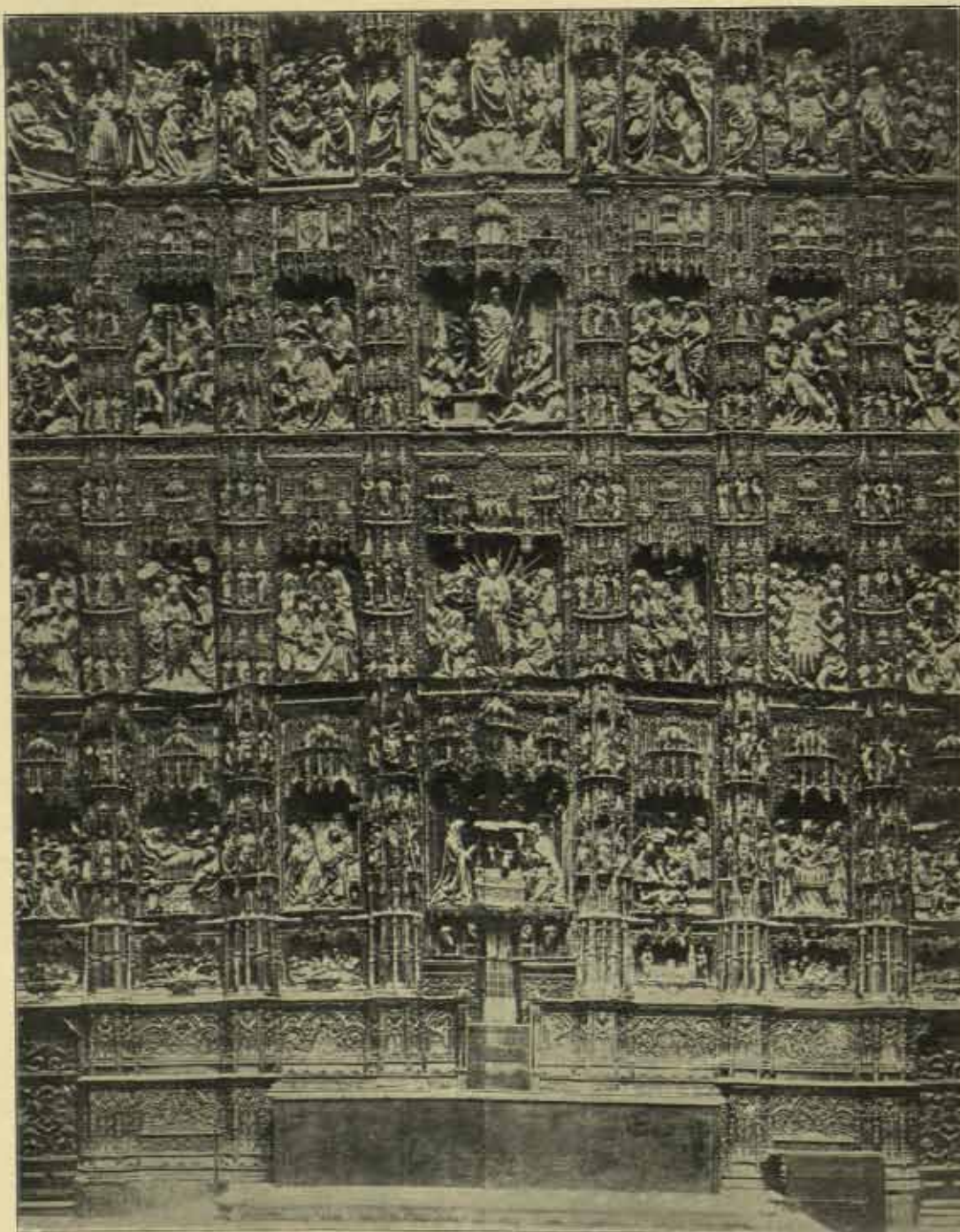
(Continued from page 180.)

WITH the early Renaissance movement, especially in the south, a whole series of monuments of the greatest historical interest came into being, in which all the forms and motives of this style are represented: medallion reliefs, statuettes, garlands of fruit, winged lions, and other animals. The Florentine sculptor, Domenico Fancelli, came over to execute the monument erected to the Catholic Kings of Granada. He is also said to be responsible for the tomb of Prince Juan at Avila and that of Cardinal Ximenes at Alcala de Henaras, but recent authorities are of the opinion that he acted more in the capacity of artist-in-chief over a group of skilled workers. The Spanish sculptor, Bartolome Ordoñez, without doubt collaborated with Fancelli, for it is known that he went over to Carrara from his native town of Barcelona to execute the memorial to Cardinal Ximenes. Fancelli having died in 1520, Ordoñez was chosen to complete the work. There seems, also, to be no doubt that Ordoñez was the author of the tombs of Juana la Loca and her husband, Philip I., placed somewhat later at the side of the monument of her father and mother in the Royal Chapel of Granada.

Much praise has been lavished on these famous monuments. Their creation caused great excitement amongst artists of all nations, and when the scheme was first promoted foreign sculptors hurried to Granada. It is stated by some writers that a competition was instituted and that the famous Italian sculptor, Torregiano, who designed the tomb of Henry VII. in Westminster Abbey, was one of the unsuccessful competitors. Torregiano afterwards carried out many statues in Seville, where he ultimately settled and died of a broken heart. Of the two monuments I am rather inclined to choose that of Juana and her husband as being the most interesting; it is boldly conceived, and much vigour is imparted by the animated figures placed at the corners. Nevertheless, it must not be claimed that the figure sculptors of the Renaissance were on a higher plane than their immediate predecessors; neither in expression or character, nor in observation of nature, nor in gift of story-telling were the Renaissance sculptors superior to their brethren of the late Gothic period which we have just been discussing.

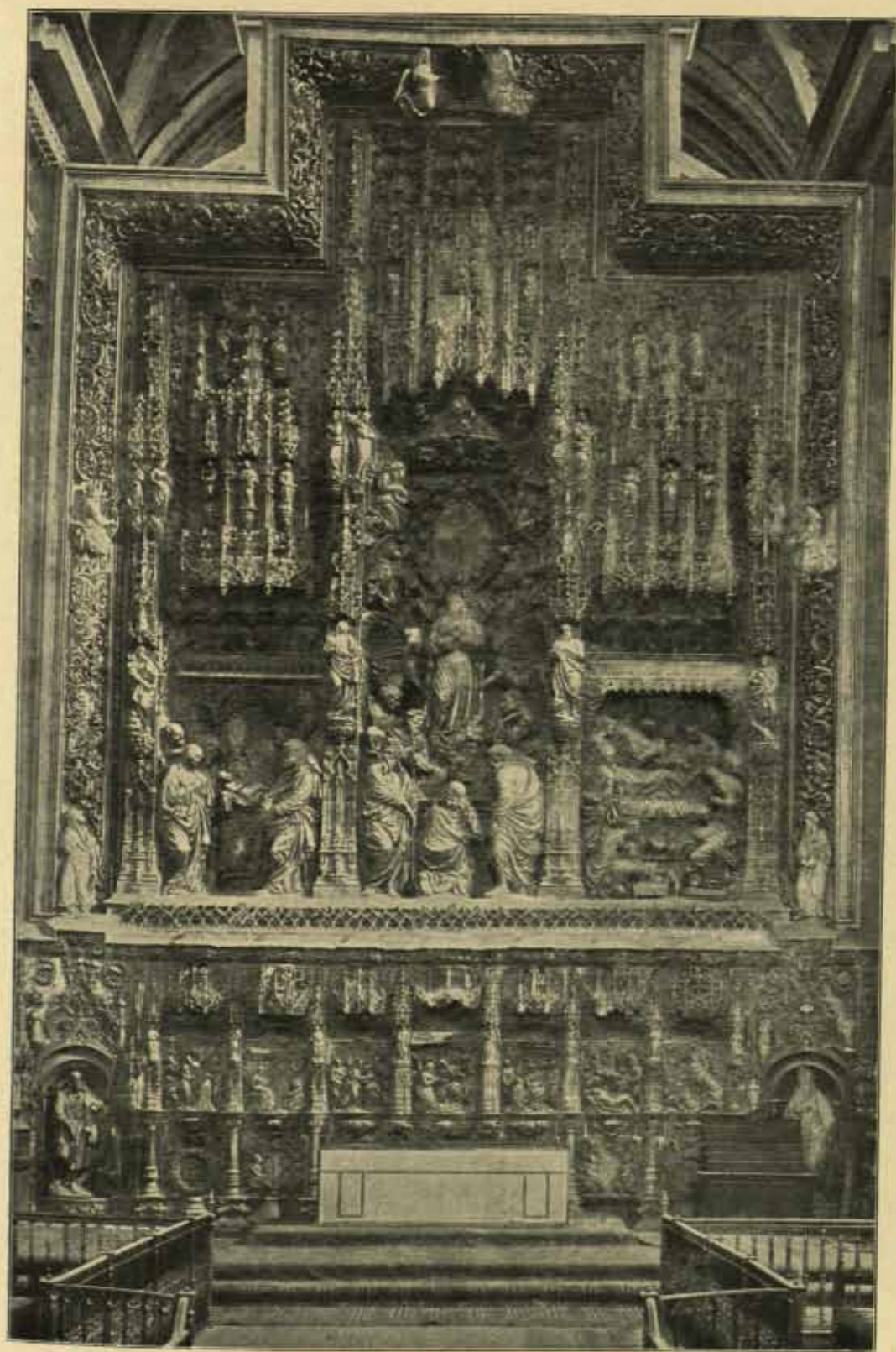
It was not long before Spain found a great exponent of the new art. The influence of Michael Angelo soon had an effect on the Spanish temperament. His work appealed to their feeling for the

serious, the dignified and the deeply emotional. The name of Alonso Berruguete is identified more than any other with this whole period, especially with the grotesque style. He was born in the year



The Retablo Mayor, Seville Cathedral.

1480 and was the son of the King's painter. On arriving in Italy he entered the studio of Michael Angelo, where he was entrusted with the copying of the Pisan Cartoon. On his return to Spain in 1520 Charles V. appointed him to be royal sculptor and painter. His carvings in wood and stone are to be



Retablo, by Forment, Cathedral del Pilar, Zaragoza.

found throughout the country. Some of his principal works in wood are the carvings on the Gospel-side of the choir stalls in Toledo Cathedral. He also left many noteworthy tombs, of which perhaps the best known is the monument to Archbishop Tavera in the Afuera Hospital at Toledo, said to be his last work. The sculpture of this tomb is distinguished, although mannered, and the Michael Angelo character of the kneeling figures is distinctly observable. He also carried out the tombs of Don Juan de Rojas and his wife in the church of San Pablo at Palencia. These are kneeling figures full of character.

In my opinion his finest work is that of St. Secundus, Bishop of Avila, in the little church of San

Secundo in that city. The monument stands by itself on the floor of the church, and is the only instance within my knowledge of a single kneeling figure being placed in such a position. Underneath the statue is a charmingly sculptured base of low proportions, while in front of the Archbishop a prie-dieu is added, which imparts balance and finish to the whole composition. There is another example in metal of a kneeling statue in the church of San Pedro de Lerma, near to Valladolid, the work of Juan Arfe, the celebrated silversmith and a member of the great Arfe family, famous for their skill in creating metal custodias for most of the important cathedrals in Spain.

Leaving the interesting subject of tombs, I now propose to discuss, briefly, the most remarkable features of a Spanish Cathedral—namely, the altarpieces or Retablo Mayors, as they were called. From a very early date the choir of a Spanish cathedral became located in the centre of the building immediately to the west of the transept crossing, and it usually occupied about three bays of the nave. Facing it, on the east side of the crossing, was the Capilla Real, placed in that part of the building which formed the choir in an English Cathedral. The spaces occupied by the choir and the Capilla Real were enclosed on three sides by lofty stone screens.

It seems therefore fitting that the large expanse of blank wall, on the outside of the choir, called the Trascoro, should be utilised for the display of sculpture. The peculiar position of the choir was owing



Sculpture in Museum, Burgos.

to the admission of the laity to the transept in front of the altar. Many critics complain of the interruption of the general view of the nave, caused by the lofty walls of the choir, as no complete view of the interior is possible. An American writer very aptly describes this obstruction as "sticking like a bone in the throat." The Trascoro in the Seo Cathedral at Zaragoza is a typical illustration of our subject. The enclosure, in this case, is just high enough to allow the eye to take in the general proportions of the interior. Constructed in marble about the year 1538, of a perhaps conventional Italian type, this screen is the production of the sculptor Tudelilla. Other fine Trascoros are in the Cathedrals of Palencia, Leon, and Avila.

The back of the Capilla Real in the cathedrals called the Trassagrario, was often richly decorated. In Burgos Cathedral it was completely covered with sculpture.

Here are three magnificent bas-reliefs, executed by the famous Philip de Vigarni, surnamed Borgoña, whom I have mentioned before. He was of Burgundian origin, but a native of Burgos, and received his training in France as a carver of images. These reliefs of the Passion are perhaps the most pregnant work of this period of the transition. In the first, Jesus goes out of Jerusalem to Calvary, accompanied by St. Simon, the cross-bearer; the second represents the Crucifixion. These fine reliefs, which I consider to be most impressive works, were the result of a competition, won by young Borgoña, and it was after their completion that he went to Italy, where he acquired his knowledge of Italian forms and his insight into their grace and delicacy.

The altar-pieces of Spain are the distinguished expression of the country's art, and their construction gave endless employment to the architect, the sculptor, and the painter. In no other country have their works developed and assumed such huge proportions. At first we find them as screens, dating back to the twelfth century, when small portable altars or diptyches were used by Generals to pray in front of before going into battle. An early specimen is preserved in the Escorial. The Romanesque churches contain a few Retablos of moderate size, designed on simple lines. As they developed in scale and importance, the sculptured panels gave place to painted ones, and the many compartments into which they were divided became enclosed in Gothic frames and traceries richly painted and gilded. Retablos with painted subjects taking the place of sculptured panels, may be found at Salamanca in the old cathedral, and an example of later date at Avila. This type of Retablo, however, had a short existence; the inherent Spanish feeling for the realistic, strongly countenanced by the Church, revived the old tradition of combining both arts. The sculptured panels appeared again, and at the end of the fifteenth century, when the vitality of Spain was at its highest, the carvings were entirely coloured and gilt.



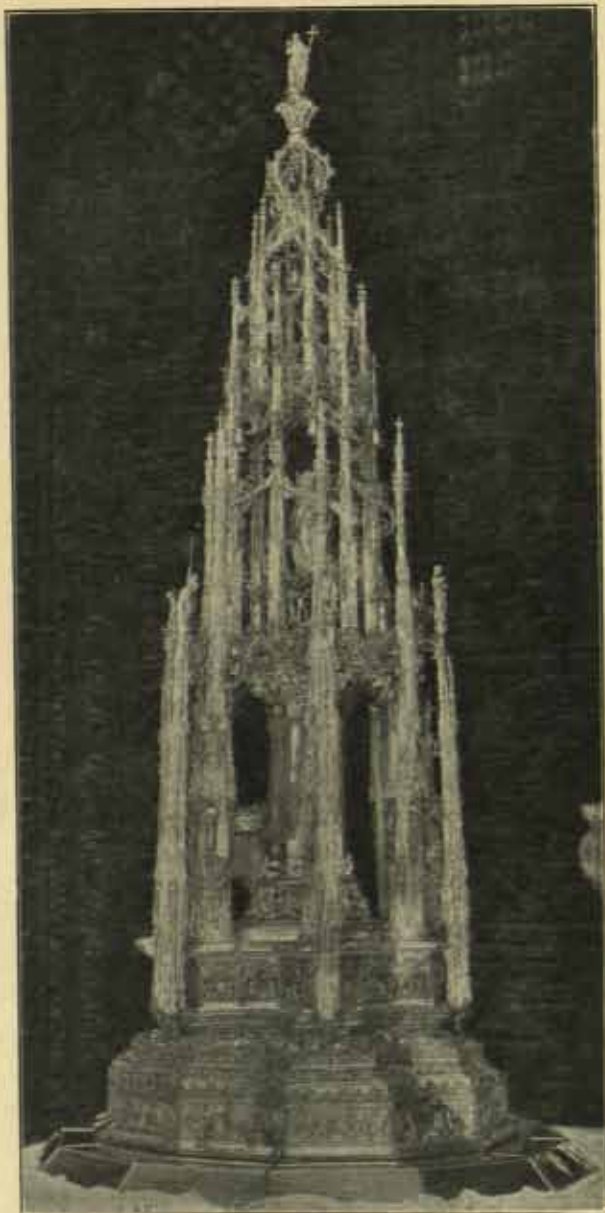
Door of a Private House, opposite the Cathedral, Avila, Spain.

The method adopted is most interesting. Different sets of artists completed these polychromes. First, and most important, there was the tracer—the chief artist—who furnished the design both for the whole work and its ornaments of statuary; he also superintended its execution, and was the architect *de facto*. To him the sculptors, ornamenters, master masons and master carpenters were subor-

ordinate, but the painters, damaskers, and gilders were free from his control. To the members of the guild the tracers were known as "Architectural Assemblers," the sculptors and carvers as "Imagers," the body painters, who coloured the flesh of the figures, as "Encarnadores," and the garment or stuff painters and the gilders as the "Estofadores" and "Doradores." The "Encarnadores," or flesh painters, held a position of high importance, and it was not unusual for them to receive for their work as much as half of the entire sum paid. Many of the great Spanish painters were polychromists, and in later times such men as Zurbaran and Murillo collaborated with sculptors in colouring their productions.

The Retablo at Tarragona Cathedral is considered to be one of the finest in Spain. I regret, however, that my recollection of it is somewhat vague, my visit to that town dating back to the year 1890. It is the masterpiece of the Catalan artist, Pedro Juan, who afterwards was invited to Zaragoza to design the altar-piece for the Seo Cathedral.

In the same city are two very beautiful Retablos by Damien Forment, a Spanish sculptor, already referred to. Forment was born in Valencia and studied in Italy. Whether he was a pupil of Donatello or not he must have acquired his knowledge of carving under one of the greatest masters. The main fact remains that Zaragoza is fortunate in possessing in the cathedral of the Pilar, and in the church of San Pablo, specimens of his very best work. They are both noteworthy for their bold design, restraint in size, and the Italian feeling imparted into their sculptures. Another prominent feature is that, in the canopy work and decoration of the broad frame surrounding the Retablo, Forment remained faithful



Silver Custodia, Cordova Cathedral.

to the Gothic tradition. That the Retablo of the Pilar must have been a polychrome is evident from the presence of colour on two of the figures, placed on the right and left of the altar, ruined, no doubt, by the injudicious washing of the alabaster reliefs in later times.

The Retablo of San Pablo, although presenting the same boldness of outline, suffers under a close inspection. The carvings, probably carried out by his pupils, are in this case all in wood, but they are wanting in delicacy and refinement.

With the advancement of time huge Retablos rapidly arose, soaring up to prodigious heights. All that had been expressed in earlier examples by painted groups on panels were translated into sculptures.

The general impression conveyed to the mind on observing these Retablos is less pleasing, and the eye is fatigued on attempting an examination of their detail. A case in point is the Retablo at Seville Cathedral [see p. 196]. Apparently the designers, accustomed to certain shapes and forms, the outcome of decorating spaces of moderate dimensions, could not grasp a really big subject, and tried, by contenting themselves with a multiplication of parts, to gain the desired spaciousness. This otherwise magnificent Retablo at Seville covers an area of almost 4,000 square feet. The scheme was conceived in 1482 by the Flemish sculptor Dancart, who, in order to facilitate the completion of the work, employed larch as the material. Wood now entirely took the place of stone and alabaster. It lent itself better to a colour treatment and for carving into filigree work. The new material was soon mastered, and was fashioned into incredible forms, just as if it had been as soft and pliable as gold leaf. Everything that could be fashioned in wood may be found on the Seville Retablo, such as figures, foliage, tracery, mouldings, and all sorts of conventionalised ornament.

In my opinion the most successful example of these huge works is the Retablo at Toledo Cathedral, in the Capilla Real, designed by Philip de Borgoña. The composition presents a playful variety of form, combined with a vigour of detail that is very satisfying. It may be noticed that there is a certain variety in the spacing of the compartment, and that the whole work bears distinctly the impress of no ordinary designer. The character of the draperies alone would suggest a northern artist. On the other hand, the Retablo at Seville displays Gothic details, blended with eastern forms, and other characteristic Spanish motives, which must not be overlooked, notably in the canopy work. It may, therefore, on this account be claimed to be a better representation of native Spanish art.

Other Retablos of the Toledo type, by Flemish artists, are at Oviedo and Valladolid. Then we have the elaborate works at Burgos, carried out by the Siloes, father and son.

Each Spanish town had a type of Retablo peculiar to itself. At Burgos a large carved circle composed of winged angels, introduced into the upper tier, is a motive common to both Retablos at the churches of Miraflores and St. Nicolas. In the former edifice the circle encloses a large crucifix attended on either side by the Virgin and St. John, while a symbolical pelican, feeding its young with its own blood, is carved above the Cross. The entire surface of this vast creation was gilt with the gold said to have been brought from America after the second journey of Columbus.

At the church of St. Nicolas the Retablo is even more crowded with figures, and shows to what an almost insane extent the church encouraged the use of statuary. One can hardly imagine sufficient room left to squeeze in an additional figure.

I must not omit to mention that little gem of the wood-carver's art—viz., the Retablo in the chapel of the Condestables in Burgos Cathedral. For colour, the tender rendering of its sculptures, and complete harmony it is unsurpassed.

Wood-carving as a favourite art remained in Spain for several centuries after the Spaniards learned to excel under the skilled tutelage of the great masters from Germany and Flanders. The art of carving became highly honoured. An early ordinance of Seville referring to wood-carving, masonry, and building esteems it "a noble art and self-contained, that increaseth the nobleness of the King and his Kingdom, that pacifieth the people, and spreadeth love among mankind conducting to much good."

The silversmith's art attained a place of equal importance, and I give as an example the Custodia from Cordova Cathedral, completed in 1513 by Enrique de Arphe.

In conclusion: after an examination of these magnificent works, it seems sad to realise that the glory of Spain has departed. Whether we wander through the deserted cities of Castille or make a pilgrimage to some remote cathedral, it is manifest that in matters of art this once powerful empire has never ceased to exist, but still continues to rouse our wonder and admiration. Amidst crumbling

decay still stand the monuments of Spain's greatness. If nowhere else in the world such glorious works of art are to be found amidst such poverty, let us hope for a speedy revival in Spain of those factors which will raise it once more to its former position amongst the nations and cause it to take its place amongst the highest artistic circles of the world.

DISCUSSION.

MR. ERNEST NEWTON, A.R.A., *President*, in the Chair.

MR. W. ROBERT COLTON, A.R.A., in proposing a vote of thanks to Mr. Prentice, said: Strictly from the sculptor's point of view I feel that amid all this magnificence of Spanish sculpture one is a little bit lost; one feels that it is a case of gilding the lily, that it is crowding up detail to excess. There is not only a crowding of beautiful detail too closely, and making it ineffective in that way, but, beyond that, the architect, or the master-tracer, as I believe he was called, had the sculptor under his direction, therefore the sculptor is not to blame. But the painter, I believe, was free, he was not under the control of the master-tracer. Thus I think the painter was a little guilty in the matter: that he did, after making this tremendous excess of ornament, colour it vividly with blues and reds, and, beyond that, gilded it. I daresay the effect is very fine from the barbaric side, but one regrets that with all the precious work which was expended upon those decorations there was not more reticence, more arrangement of spaces and masses of decoration. That is the point which strikes me most, although I have been told that a very distinguished sculptor indeed, perhaps one of the most distinguished sculptors of this age, obtained his inspiration from studying Spanish sculpture. I think that is possible, but I do feel it is not so much in the sculpture itself where the defect lies, but in the crowding up of that mass of work into a very small space. From the sculptor's point of view, the scale of the sculpture is too small, and there is too much put into a confined space. However beautiful in detail it may be, its beauty cannot be distinguished under these conditions.

PROFESSOR GERALD MOIRA [*Hon. A.*], in seconding the vote of thanks, said: I am sure no words of ours can add anything to the delight that Mr. Prentice has afforded us. I feel that in the old Spanish times painters were able to come somewhat by their own; as to-day the sculptors have it all their own way, so in the old days the painters had their time; they were allowed to have a whack at the sculptors and paint all over their work, which must have been a great pleasure to them. The sculptors complained that much of it was gilded; I expect that was all the gold that they saw, that is, the gold they put on in the gilding! Undoubtedly, the feeling one has in seeing those beautiful things is that there is terrible overcrowding. But I think one must remember that the overcrowding was

more due to the desire to illustrate than to a desire to produce an artistic work. And I am not quite sure whether very much better instruction is not brought about by the mere desire to illustrate what is given to one.

MR. A. T. BOLTON, F.S.A. [*F.*]: I have particular pleasure in supporting this vote of thanks. Over twenty years have elapsed since to some extent I followed on my friend Mr. Prentice's tracks in Spain, when I saw a number of those places which he has so clearly described to us to-night. I do not think myself that Spain is at all the country for a young architect to visit at the commencement of his studies, because most of what there is to be seen there has been better done elsewhere, notably in France and in Italy. Spain is a country where you see things done in a way which is extraordinarily stimulating and illuminating when you have seen the more orthodox masterpieces. The best idea of Spain, I suppose, is to be obtained from the sketch books of David Roberts and Vil d'Amil, who have caught in a marvellous way the main characteristics of Spanish work, and have given us some idea of that strongly pictorial, even dramatic, character which runs all through Spanish art. I think the conclusion you will come to when you have visited the country is that painting, rather than architecture or sculpture, is the art of Spain. Mr. Prentice is certainly right in saying that the work of the Romanesque period is extraordinarily fine. It is to my mind the most artistic and refined work in that country. I went myself to Leon, Oviedo and Naranco, and found the work there, like most of that period in the northern part of Spain, extraordinarily interesting. It shows what a wonderful period the Romanesque really was. They were then on the verge of developing a style of extraordinary refinement and interest when, as it seems to us, the thread was cut by the introduction of Gothic, under the powerful influence of the French. The north of Spain, as was also the case with Germany, was carried off its feet, and Leon and, to a large extent, Burgos are French Gothic cathedrals. The upper part of Leon Cathedral was only completed in that Early Renaissance period of which we have heard to-night, and I saw at Leon a vast mass of stone accumulated at the base of the cathedral walls which was all this same Early Renaissance work, which had been taken down in order

that the cathedral might be put back to the period in which it was designed! Spain, as a whole, is remarkably rich in this Early Renaissance work, and it is remarkable how the reredoses, choir fittings, screens, altar frontals, and choral music books have survived. Salamanca, of which you have seen several views, is the Oxford of Spain, and there is no part of Spain where more time can be pleasantly spent than in that fascinating city. We have been told to-night about the fortunate decision to preserve the old Cathedral of Salamanca. It is built in an early, half Romanesque, half Gothic style, and the centre tower or lantern proved very inspiring to Richardson in the design of that fine church which he built—Trinity Church, Boston. Berruete, the sculptor, particularly mentioned to-night, brought from Italy something of the school of Raphael and Michael Angelo into Spain. To my mind, a building which Mr. Prentice, of course, knows very well, the Palace of Charles V., at Granada, the façade of which is built in coloured marbles and golden-yellow stone, contains Berghetti's finest panels. They are carried out with all that knowledge of and interest in anatomy which Michael Angelo was responsible for introducing into sculpture. When we come to the last part of the paper dealing with reredoses, we are in touch with some of the most characteristic things in Spain. The climate of that country is characterised by an extraordinarily brilliant sunshine. Entering a Spanish cathedral in its comparative darkness you see at the end an enormous blaze of direct and reflected lights, produced by the whole mass of the great reredos, perhaps some 40 feet wide by 60 feet high, which may be entirely gilt. Treated like that the feature becomes, as it were, an enormous piece of metal-work. I do not think you can judge it from the point of view of wood-work or masonry; it has a character of its own. Turning to the question of colouring, we see the importance of the "Encarnados," those who painted the exposed part of the figures; the flesh tints employed by them are to make the figures literally alive. The Virgin of the Seven Sorrows will have seven daggers plunged in the crudest fashion into her bosom, her face will be a direct imitation of a human face, so that you will lose the idea of the figure being sculpture and find yourself in the presence of a life drama. That intense craving for realism is very prevalent in Spain. There will always be the two schools, that in which the unseen is figured, and that in which the actual is depicted, and in Spain Murillo stands for the one and Velasquez for the other. That intense Spanish realism is as striking in their architecture and sculpture as it is in their literature or their painting. The student should understand that in regard to no country is it more necessary to read up the subject beforehand. I recollect that after my return from Spain I had a letter from that country from Mr. Stewart, whom we have so unfortunately lost. He wrote in evident distress, saying he was not seeing what he expected to see, and asking where had I been, and where ought he to go?

That may happen if we go to Spain unless we have had the hint to look the matter up very carefully in advance, because in that country there are none of those delightful casual things which in Italy, France, and England make almost any old village a place of some interest. In Spain you go long, tiresome railway journeys from one big town to another, and, except for a few isolated castles and monasteries, the country is rather a desert. Therefore it is advisable to study the subject in advance, and there is no book on the fascinating period to which Mr. Prentice has, so wisely, confined his and our attention to-night which is equal to his own beautiful book that we all know so well.

MR. J. D. CRACE, F.S.A. [*Hon. A.*]: I should like to be allowed to add my word of cordial recognition of the admirable Paper we have heard. And I thank Mr. Prentice particularly for the magnificent illustrations that he has shown, without which the Paper itself would have been almost lost; and I refer not only to the lantern illustrations, but also to those admirable models of what sketching should be which he has also placed on the walls. I could not help regretting that while Professor Moira was speaking he did not put in a word for the painters. These elaborate gilt reredoses are not strictly shown as sculpture; they are the decorative focus of the church, and they are treated somewhat as ivory carving might be treated. The explanation of them is rendered infinitely more clear by their colouring, and coloured sculpture is almost a speciality of Spanish work. I do not think Mr. Prentice laid quite as much stress as he might have done on the wood carving, the very remarkable carved figures in wood, painted. They are remarkable both for their vigour of execution, the management of the draperies, and the colouring, which is very expressive and assists in the explanation, at a distance, of the figures themselves. I believe we have a few of the carved figures at Kensington, which are characteristic examples, if I remember aright. The crowding which has been spoken of I was very much struck with in Spain, not only as regards the reredoses, but even the exterior sculpture; the ornamental and figure sculpture is crowded together in such a way as very much to diminish the recognition of the constructive feature. I do not think the architecture, as such, gains to the extent it might have done had the sculpture been more restricted and spaced in better recognition of the intention of the architect. But that is criticising the past. I think if one looks at it as in any sense a model for the future that this crowding must be regarded as a defect. It is extraordinarily effective and bold in some ways—for instance, the heraldic work. The use in Spain of heraldry in sculpture is very remarkable and very effective. If one has to think of heraldry in connection with architecture I think Spain is the place in which to study it. The actual execution of the sculpture never attained to the refinement of the French work; it has the appearance of what we may call more hasty work, there is not that loving care about

it which French and Italian sculpture shows. Nevertheless, it is an extremely interesting school; but I agree with Mr. Bolton that Spain is not the place for the young architect to study in.

THE PRESIDENT, in putting the vote of thanks, said: I regret very much that I have never visited Spain to see with my own eyes the interesting work which Mr. Prentice has shown us on the screen to-night. A photograph, of course, only gives a very general idea, and we have to imagine all the sunlight and colour. Mr. Prentice introduced us to Spanish architecture when he published his charming sketches, some of which are exhibited on the walls, in book form years ago. We are now indebted to him for a most interesting and suggestive Paper on architectural sculpture. Several speakers have said that Spain is not a good place for young architects to study in; but I have no doubt that, when the war is over, a good many architects who have never been to Spain will want to go, simply to see the buildings which have been illustrated this evening. And, in due time, their studies will be digested, and will help to form the British architecture of the future. British architects have, however, a great power of assimilation and a very sturdy digestion, and I think we may be sure that, in spite of their mixed diet, their work will always have a distinctly British character.

MR. PRENTICE, in reply, said: I am afraid I shall not be able to reply to all the questions which have been raised, but I have very much pleasure in thanking those gentlemen who have kindly come forward to take part in the discussion, and also our distinguished guests for their valuable criticisms and their kind appreciation of my efforts to throw some light on this vast subject. It is true that a great deal of the sculpture of Spain was executed by foreign artists and is exceedingly rich, but much of it is of genuine native inspiration. Spanish sculpture can hardly be compared with that of other countries. Without doubt, much of it was executed for the Church, and statues were carved almost for the exclusive use of religious orders. The desire for realism was very strong, and hence the use of colour, which was employed in order to render the figures more lifelike. And I think it can be claimed that Spanish character expresses itself more strongly in sculpture than in painting. I am afraid the time at my disposal has been altogether too short to enable me to do justice to the subject. I should have liked to give some description of the carvings on the choir stalls, beginning with the beautiful mediæval work in Leon and Segovia cathedrals, displaying the skilled and masterly chiselling of the Flemish and German sculptors. Time has also prevented me from mentioning the fine fountains and monuments in the Royal palaces, gardens, and other places.

MR. W. GILBERT, of the Bromsgrove Guild, writes:—

One point raised in Mr. Prentice's lecture has always

appealed to me—the cosmopolitanism of art. Mr. Cass Gilbert once said to me, "Art knows no political frontiers." This is true. The finest periods of art have always been when artists drawn from all nationalities have associated together. The fine works shown on the screen were the works of men of all nationalities, drawn together at various periods by some great patron. You remember at Versailles there were not only Frenchmen, but Italians, Flamands, Alsations, and many other nationalities, all equally inspiring one another, all bringing from various quarters the traditions that each had learnt. We saw the same thing in our own country when Torrigiano worked alongside the English sculptors in Westminster Abbey, and again later when the Dutch and English sculptors left their mark in an epoch of the sculptor's art in our own country—when Nicolas Stone brought over the traditions he learnt from the great Hollander responsible for the tomb of William the Silent in Delft. So, as Mr. Prentice has well pointed out, we see Flamands, French, Germans, Burgundians, and Italians working alongside the Spanish artists. It is quite possible that there were English artists there too.

Another point which has always appealed to me in sculpture is that sculpture is a book which reveals to you more truly than any other art the temperament of the people, their aspirations and ambitions, in its subconsciousness of expression. If there is one art more than another which puts on record the soul of a nation during any particular time or stress through which the nation passes, it is sculpture. I believe that it is expressed unknowingly and that it is the perspective of time which allows us to see it truly. I have in mind Bath Abbey with the work of the lesser sculptors of the eighteenth century. These memorials express to my mind in a way that no other art can the life of England at the time—the hidden life of the country, the dilettantism, the neatly turned phrase, the polished perfection of dress, the veneer with which anybody who was anybody clothed himself in that Addison age. I have in mind again St. Gaudens' fine relief in the gardens of the City Square in Boston. I see it under the flickering sunlight through the trees. It is said to offend all the ethics of sculpture in the action it expresses. But to my mind that and another piece of St. Gaudens' work to which I shall refer express the temperament of the American people and the times such as no other art can that I know of. In looking at this wonderful panel of sculpture I seem to hear the tramp of the soldiers, filled with American determination and nervous, strong energy, marching to fulfil a great ideal. The negro in the ranks (the ranks of the North) is marching to free the negro of the South—the whole to found the Unity of the States. And when you look at it you remember what that determination demanded in the war of brother against brother—you remember that ceaseless marching and counter-marching in the Valley of the Shenandoah. You see the whole, set in a frame of classic design of Stanford White's, unconsciously again

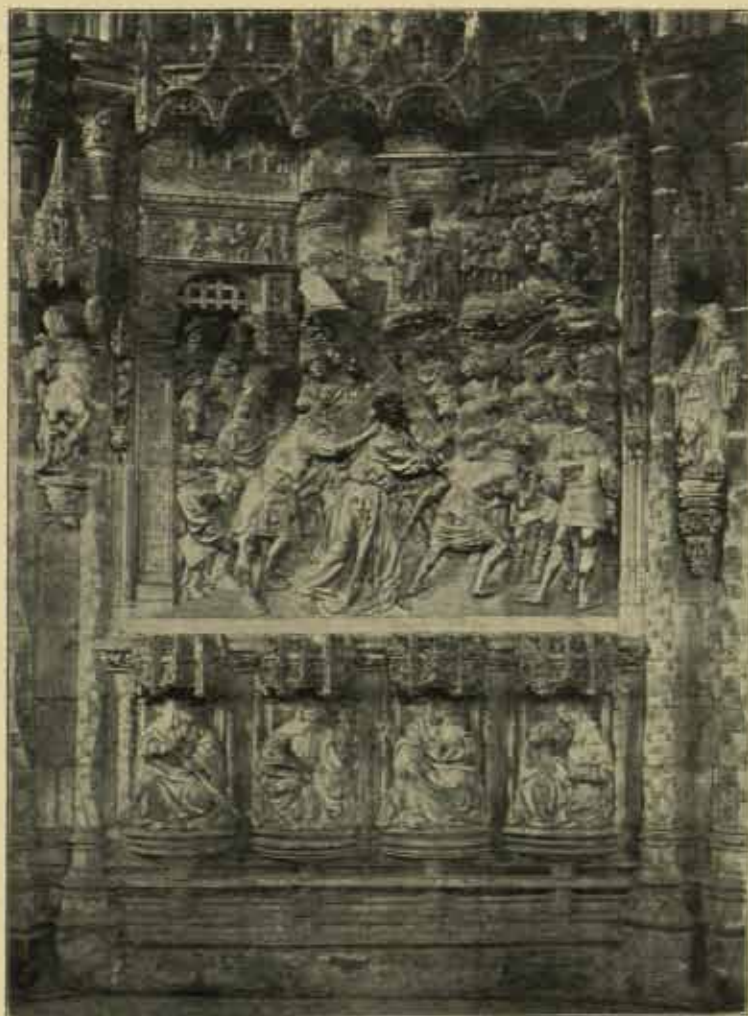
appealing to the great Imperial destiny which every American believes in his heart belongs to him. St. Gaudens again exposes the same nervous characteristics of the American people in his statue of Sherman which looks down towards old New York. It is not difficult to imagine what the fulfilment by Sherman of his task meant to the American people, and when you look at the statue you not only see the pride of the General at a successful issue, but you easily picture the relief of the people crowding into the cheering streets, strewing flowers in the path of the victorious troops—the horse itself feels the pride of the moment as it lifts its hoof over the branches of the fir.

So it was in these times which Mr. Prentice has brought us through. Vasco de Gama had rounded the Cape; Columbus, Pizarro, and Cortez had discovered new worlds, and had not only discovered new worlds but the riches of new worlds. The Spanish people became suddenly the richest in Europe. This found expression in their art, and particularly in the art of

the sculptor. They adorned their buildings in a frenzy of sculpture. They dared everything; laws of arrangement, canons of arrangement, were violently thrown aside in their voyages for new effects. Just as their explorers opened up new lands, their sculptors opened up new worlds in æsthetics, and in their art we see the gorgeous dress of ceremonials, the pride of a conquering nation warmed by its conquests in a land of never-failing sun.

The time through which we ourselves are now passing will one day have its record for our posterity—the silent, grim determination, the unity of our purpose, the vastness of the struggle, the far-reaching effects over our Empire, the quietening of all internal discord. The very vastness of it all may ensure that it may be years before the vibrations may be seized and set down by the sculptors, but assuredly they will be, and form a record of our time and of our race and destiny.

Such seems to be the art and the duty of expression of the sculptor.



Sculpture Panel by Philip Vigarni, Back of High Altar, Cathedral of Burgos.

REVIEWS.

THE MINISTRY OF ART.

The Ministry of Art. By Ralph Adams Cram, Litt.D., F.A.I.A.
Svo. Boston, 1914. [Houghton Mifflin Co., Riverside Press,
Cambridge.]

There is nothing new under the sun (the phrase itself has a faint touch of familiarity), and Mr. Cram, the author of these eight Papers, would lay no claim to being unaided in evolving the philosophy which runs through them. He would, in a sense, deprecate originality, having no liking for departure from beaten tracks, whether by Protestant reformers or prophets of *l'art nouveau*. His sympathy is all with the spirit of high tradition, the handing on of the old torch, rather than a striving after new lights.

But there is no sense of staleness in this book; its ideas have come *vividly* to Mr. Cram; he holds them with obvious sincerity, proclaims them with enlivening enthusiasm, and in *The Ministry of Art*, as well as in the great buildings at West Point, he manifests a sense of "style."

This is a fighting book, and those who, instead of appreciating "Fr. Figgis, Fr. Wagget and Fr. McNabb," go a-whoring after "Campbell, Canon Henson, and Mrs. Eddy," must expect hard knocks; but in some of the lectures one is led, in great content, by the peaceful paths of acknowledged fact, to the final and possibly provocative conclusion. For instance, in the chapter about "The Gothic Restoration," on the way to an apotheosis of the medieval manner, we are conducted down the line of Victorian splendour in the States, and shown strange, half-forgotten wonders. We see specimens of the "Græco-Baptist Style, with porticoes of classical columns made of inch pitch-pine stock neatly nailed together, painted white, and echoing to the uncautious kick." We come to "Carpenter Gothic," marked with "the same high indifference to structural integrity," and with even less assistance from precedent; we, with some scorn, pass coquettings with Queen Anne, and cheerfully note the "working of the Ruskinian leaven." Finally we are brought up in wonder at the grim Romanesque of Richardson, "with its quarry-faced ashlar, cyclopean voussoirs, and cavernous arches," a style so dominating that it not only overcame the railway station and skyscraper, its rightful prey, but led in its train the village school and the bijou residence of the newly wed.

At present America seems to be successfully struggling with "Three classics and two Gothics, and steel frame, and Post Impressionisms (not to mention the others)." Mr. Cram is a prophet of the pointed arch, and would, we imagine, take his torch from Tudor builders; but he preaches the spirit rather than the letter, and is more catholic than some of us were in the seventies! He has no quarrel with those who light their candles from the stiff flame of Wren and Chambers—"even they" (to quote the Don of Trinity on the members of other Colleges) "are God's creatures"; and the column and entablature, dentil and dull

acanthus, while unsuited for the church of God or the homes of little children, seem to have their uses in the apparent support of railway stations and the imagined adornment of departmental stores.

There is some interesting analysis in the Paper on University Architecture, there are useful suggestions for the circumventing of commercialism in its attempt to destroy the artist-craftsman (or at all events to keep him well at the back of the shop), but the book in the main is an inspiring proclamation of the author's idealism.

Architecture may be "a profession," or it may be "an art"; it must be, to be worth anything, *a ministry*, both an act of worship and a help towards it. Even if the ways of modern life force us into the sin of simony, Mr. Cram will have none of "that most pernicious and devil-engendered principle of the present age—namely, 'Give the people what they want.'" Art is "the visible record of all that is noblest in man, the enduring proof of the divine nature that is the breath of his nostrils. Through art we come to the revelation of the highest that man has achieved, not in conduct, not in mentality, not in his contest with the forces of nature, but in things that rank even higher than these—in spiritual emancipation and an apprehension of the absolute, the unconditioned."

This idealism inspires the chapter on Education. Mr. Cram was not, one feels, "on the modern side" himself, and he has no sympathy for turning out immature specialists to meet ill-considered demands; he would appreciate rather the position of that wisely paradoxical person who demanded the teaching of Greek because it was "so entirely useless." Early training should aim, not at producing useful helots of the State, but cultivated men, and learning art should not mean a universal use of brush and colour, a study of "orders" and "periods," or a wrestling with the technicalities of metre. Childhood should be surrounded with things of beauty and led to find joy therein, and youth be taught how "art is the summing up of all that goes before: the true history of the true man." What light is thrown on the sunny intellectualism of Greece by the remains of its fair temples! How could we understand the Middle Age with its tight hold on the intangible, if it were not for the mysteries of Chartres and Amiens? How grasp the rottenness of the Renaissance without the art, in another sphere, of Machiavelli?

Mr. Cram is hard on the Renaissance; he admits its splendours, but claims that they are but an aftermath of past medievalism, and sees in them an over-ripeness, presaging decay. With the Renaissance came Intellectualism, an arrogant scorn of authority, and eventually those horrors, so much akin—revolution and the Protestant Reformation!

Well, well! This is an appreciation, not an attempted criticism; but we wonder if the rising into dominance of the commercial class over the more spiritual fighting men has not had something to do

with our present discontents—especially as the commercial men got so entirely into their hands the machinery of the Victorian Age? And cannot one hope for a future, even in religious art, for Intellectualism when it has become intellectual enough to realise its limits? and for Protestantism, when it has ceased protesting overmuch and turns to that individual inward light which lighteth every man who walks humbly with his God?

The Ministry of Art is a fascinating book, and we would like more from its author: we would have him as our guide down the way of *English Victorian Art*, and hear him discourse on Philip Webb and Shaw, Gilbert Scott and Street, Sedding and John Belcher; to know what he thinks of our "Arts and Crafts," of the influence of the firm of Liberty on the "Philistines," and of *Country Life* on our "Barbarians." Whether, too, he does not think that *l'art nouveau* (an abrupt departure, which ended ingloriously here) did not "lead to something" in Germany—one thinks it did when looking through the pages of Teutonic magazines, now, with a fine patriotism, countermanded by our vigilant authorities at the Institute!

HERBERT G. IBBERTSON [F.]

NEW BUILDING REGULATIONS FOR SECONDARY SCHOOLS.

Board of Education: Building Regulations for Secondary Schools, being Principles to be observed in Planning and Fitting-up New Buildings in England. 1914.

In general arrangement the New Building Regulations for Secondary Schools follow the same lines as those for Elementary Schools, and the essential principles of planning laid down are almost identical in both cases. The writer, in a previous communication* on the Elementary School Regulations, dealt with these principles in considerable detail, and a similar analysis of the regulations now under notice would involve unnecessary repetition. These notes, therefore, are merely intended to be supplementary, and are concerned only with points of dissimilarity. Changes in school planning are perhaps more marked in the case of Elementary Schools, since the obsession of type, which gripped in sterile monotony so many efforts in this particular direction, did not obtain such firm hold upon Secondary Schools. Greater variety in the nature of the problems offered, and their wider distribution geographically, coupled with the influence of Governing Bodies less closely in touch than the School Boards, were no doubt contributory causes to a broader outlook. But more than these, the control of adequate funds frequently helped schemes to materialise.

There is little in Chapter I. to which attention need be called except, perhaps, the definition of a minimum effective area, two acres, for a playing field for a small school. In Chap. II., under "Organisation of the School," the possible use of buildings for Evening Classes or Technical Instruction is mentioned. This

is a point which should exercise considerable influence upon the grouping of rooms and their relation to entrances, according to the nature of the instruction for which provision is made. In Chapter III. the description, "Housecraft Rooms," appears for the first time in the Schedule of Accommodation, a comprehensive term designed to embrace housewifery. Preparatory Departments also obtain recognition.

A reversal of former requirements as to staircases is to be noted in Chapter IV., the newel wall giving place to open flights of steps to facilitate supervision. In the absence of a Hall, the provision of partitions to divide adjacent classrooms is necessary; but, owing to disturbance caused by their use and the damage suffered by floors and walls in moving the furniture, the substitute thus provided is not a great success. The use of coupled desks in classrooms is evidently not to be encouraged, and it would be difficult to mention points in their favour except economy of floor space. The warning against long and narrow classrooms might with equal force be applied to wide and shallow rooms, towards which some recent competition plans have shown a tendency. Apropos of Geography Rooms, attention might have been drawn to the need of more ample space between the front row of desks and the demonstration table, unless the platform advocated by some teachers is abolished, since its use has the effect of curtailing the view of pupils nearest the table. The rules as to Laboratories have been considerably amplified, but, although horizontal dimensions of benches and gangways are laid down, there is no recommendation as to the height of the former; nor is guidance given as to their best arrangement in the room. One can sympathise with the disinclination to pursue a thorny subject, whereon most science masters hold final if widely different opinions, and be grateful for the support given to one's conviction that benches should be clear of shelves. The warning as to overcrowding in balance-rooms is not unnecessary, and the view is expressed that except for advanced work separate balance-rooms are unnecessary. As a practical point in connection with optical work the suggestion made to the writer by the principal of a school is worth adoption—viz., the provision of a door between the dark-room and preparation-room or balance-room to gain the necessary length for experiments. Rules for fitting up Botanical Laboratories are given at some length, and stress might be laid upon the necessity of arranging greenhouse accommodation so that it does not interfere with the ventilation of the room; and, incidentally, that it shall itself be capable of adequate ventilation. The rules for Art Rooms are simplified: in schools for 100 or less the Hall may be used for drawing if suitably lighted, and in other schools one art room only is required, except where the numbers exceed 300. A single room is allotted to Housewifery, Laundry and Cookery Classes, fitted on much the same lines as in Elementary Schools. The provision of a drying closet in which an ironing stove is

* New Building Regulations for Public Elementary Schools, JOURNAL R.E.B.A., 29th August 1914, pp. 633-642.

placed adds greatly to the smoothness of working. A point often overlooked is the formation of separate flues for the gas and coal cooking stoves, washing copper, and ironing stove when the building is in course of erection. They require a good deal of scheming to avoid the use of unsightly flue pipes if adequate space is allowed for pupils to stand round the various fittings during instruction. The floor area (10 feet superficial) suggested as a minimum for Dining Halls is insufficient for the purpose if reasonable facilities for service are allowed. A rubber-tired trolley is a useful accessory for saving labour and reducing the risk of breakages. The planning of cloakrooms and offices with due regard to their use for Evening Classes is a necessary reminder. The reduction of the width to 5 feet between hanging-stands for clothes is a useful concession in view of the increase of lateral space between the pegs in girls' cloakrooms. The number of lavatory basins to be provided for boys and girls is stated separately and is below the standard previously in vogue, except for the first 100 girls. The foot and spray baths suggested for changing rooms are sometimes usefully placed in the Gymnasium changing room if adjacent to the playing-field. The Offices can be more efficiently ventilated if the divisions, as well as the doors, are kept 3 feet above the floor. This can easily be effected by the use of slab partitions with metal re-inforcement.

In Chapter V. the cubical contents of dormitories is reduced by 100 feet per head, and the floor area of cubicles with partitions carried to the ceiling increased by 35 superficial feet. It is now a requirement that cubicles must be provided for all girl boarders over 12 years of age. Alternative means of escape in case of fire are obligatory, but the provision of chemical fire-extinguishers is not advised. In regard to Day-rooms the substitution of "must" for "should" renders the provision of these obligatory for boarders; and separate sitting-rooms, or bedrooms furnished as sitting-rooms, are recommended for each member of the resident staff.

The rules are characterised by minuteness of detail, which is helpful rather than restrictive. The keynote of planning lies in the position of the Hall, and constant stress is rightly laid upon the necessity of cross ventilation. That the latter principle is not yet fully grasped, and this insistence therefore necessary, is proved by the publication from time to time of plans which neglect its proper application. Further, the adoption of the principle is useless unless it is put into practice, and there are still teachers who do not recognise the value of fresh air.

PERCY MORRIS [A.]

RELICS OF OLD LONDON.

London Survivals. By P. H. Ditchfield, M.A., F.S.A. La. So. London, 1914. 10s. 6d. net. [Methuen & Co.]

The rearranging and rebuilding that are going on ceaselessly in London—altering its thoroughfares, removing old landmarks, changing the character of

one area, wiping out the whole history of another—this revolution that is going on so rapidly under our eyes to-day, makes such a record as Mr. Ditchfield has produced in his *London Survivals* peculiarly valuable. He has, as it were (assisted in his task by the skilful draughtsmanship of Mr. E. L. Wratten), arrested the movement of the stream for a moment and given a rapid but detailed survey of the landmarks that still stand above the rising flood—and it is only too clear that the flood is still rising.

How far the revolution in the aspect of our towns, which resulted from the great industrial revolution of a century ago, is destined to develop is an interesting speculation. It may be that new forces making for decentralisation—rapid transit, cheap transmission of power—may arrest the tide, and we may see it ebb before all the old buildings that recorded man's history in stone have been submerged under ephemeral structures which are commercially profitable but historically valueless. However that may be, the nineteenth century will be marked in all towns by a great gulf—when revolution interrupted the steady transformation that had hitherto characterised their growth; and we are grateful to one who, like Mr. Ditchfield, possesses so vast a store of knowledge of old London, together with such intimate familiarity with its present condition, when he puts into print the treasure he has amassed.

The criticism that at once suggests itself, in reading through the book, is that it to some extent suffers from divided intention. It is not, on the one hand, a detailed and comprehensive survey of all the old work left in the city; on the other hand, it is too weighty a volume to be a companion to anyone wishing to make a closer acquaintance with the buildings whose history it records. The absence of any map, other than a small reproduction of one of sixteenth-century London, still further impairs its utility for the casual reader, and one could wish that Mr. Ditchfield would publish a smaller edition such as one could slip into the pocket and take to read at those odd moments when one is stranded for a time in the city with opportunity to explore some of its "Survivals." What these survivals are and what interesting scraps of history hang about them are shown very vividly in the book; and Mr. Ditchfield avoids with practised discrimination both the accumulation of irrelevant details and the omission of important particulars. What one does note throughout, however, is a certain indefiniteness of touch: a failure to convey, for instance, what is the peculiar character of Wren's work which differentiates it from all others—its essential Wren-ness; a failure, too, to give the distinctive London note, to suggest any continuous thread that can be traced through all the building energy of the past in London—to trace the ideas of the Londoner through his buildings as Mr. Belloc, for instance, in his *Paris* sees the soul of the citizens in the city's brick and stone. Where, however, there is so much that is immensely valuable, it is perhaps

ungrateful to complain that there is not even more. Mr. Wratten's illustrations are very happy—clear, direct, sure in touch, and free from irrelevancies. If one may offer a criticism, it is that he has not given us the atmosphere of London: he has chosen to reproduce those rare bright, clear days when everything looks clean and sparkling and London pretends successfully for a few hours that she is the most beautiful city of the world, rather than the average misty, sombre day when all shadows are soft and outlines indistinct. But one hardly regrets his choice, perhaps—even when, as in the Staple Inn (page 176), the old building sparkles with a cleanliness and brilliance that must be more like the days of its sixteenth-century youth than its appearance to-day.

T. S. ATTLEE [A.]

THE GENESIS OF MOHAMMEDAN ARCHITECTURE.

Palace and Mosque at Ukhaidir. By Gertrude Louthian Bell. 1914. £2 2s. net. [Oxford: Clarendon Press.]

An account of this palace, discovered by Miss Bell in 1909—a real romance of travel—and already described all too briefly in *Amurath to Amurath* and in the *Journal of Hellenic Studies*, at last appears in a form worthy of it. The book contains a minute description of the palace, to which some forty-four plates are devoted; a description, with plans and illustrations, of three small buildings in its vicinity, and new plans of Kasr i Shīrīn, made by Miss Bell.

The book is, further, a comparative study and summing-up of all the work that has been done, up to the present, on the genesis of Mohammedan architecture. Here is traced out the way in which the architecture of Mesopotamia, thrown into the melting-pot in the first century of the Flight, and fanned by various influences, part Persian, part Byzantine, yet ever steadied by its own structural tradition, emerged, after two centuries, stamped with an individuality of its own. But we learn also its history and evolution at a still earlier period, when, affected first by the plans of Hittite palaces, and later by the wave of Hellenism commencing with the triumphant progress of Alexander and far from extinct under the Parthians, it underwent distinctly marked modifications. The genesis of the early Mohammedan palace plan is traced back in an exhaustive and masterly manner. Ukhaidir, though an isolated example on the eastern side of the desert, is shown to be merely one of a series, of which the western side affords numerous examples, testifying to the slow and reluctant transition of a people and their princes from nomad life to settled existence; a culmination desired by Mohammed, who could not help at times expressing his fears that his people would abandon the centres of reunion.

For an explanation of the architectural scheme of Ukhaidir we must first look, Miss Bell says, to Sasanian palaces, such as Kasr i Shīrīn. Their plan is almost always a development of the liwan type. Eastern palaces, we are told, are composed of a

number of self-contained "baits"—i.e., courts, with halls or liwan groups on the north and south sides, which serve in turn as summer and winter quarters. These "baits" are so arranged that ultimately there is a court left over. This, Miss Bell tells us, is in accordance with Professor Koldewey's brilliant generalisation that the palaces of antiquity may be divided into three types—viz., the Babylonian or injunctive plan, as above, which is also that of Ukhaidir; the Greek or conjunctive, in which the chambers are so placed that ultimately a court results; and the Italiot or disjunctive, which creates a kind of court by sundering a roof that was originally continuous. The liwan itself is traced back to the khilāni palaces of the Southern Hittites, from one of the thirteenth century B.C. at Zindjirli, through intervening examples of the tenth and seventh centuries. Its evolution is dominated by the monumental gateway. "To the Parthian interpretation of the venerable khilāni scheme the Moslem East has remained unswervingly true." The huge Parthian liwan, rendered possible by the monumental vault, with its interior space unbroken by piers or columns, took the fancy of the Sasanians, and has remained a persistent feature of domestic architecture down almost to the present day.

Ukhaidir in many respects derives from Kasr i Shīrīn, but the great hall, corresponding to the monumental gateway of the Hittites, belongs to a system of defence absent from the Sasanian palaces, since these stood in large pleasure gardens. The flanking towers of the encompassing wall are shown to be a device in fortification, purely Eastern in origin, yet, though the legionary camp was powerless to affect the ancient palace plan, it affected the enclosing wall. At Ukhaidir we find the four gateways of the Roman camp, one in the centre of each face, though the Eastern practice had been to have one entrance only. Later, at Sāmarrā, in the great palace of Balkuwārā—almost a town in itself—are found the crossed thoroughfares which were once the Via Principalis and the Via Pretoria.

Chapter V. treats of the genesis of the façade and its decoration. Here, again, Miss Bell, with immense learning, traces back each decorative motive and constructive feature through a chain of buildings to its earliest known example, estimating in this way, as can be done by no other method, the exact origin and extent of the streams of influence which, flowing together, have made the style. She refers with approval to the comparison which Dr. Herzfeld has drawn between the triple-arched façade at Hatra, in which the central arch surpasses its flanking arches in height and span, and the façade of the triple Roman triumphal arch. This Hellenistic triple-arched scheme suited the liwan scheme, in that it provided the great central vault opening, together with side vaults affording abutment. The two openings into these side vaults, from the façade, were, however, an innovation.

Chapter VI. treats of the evolution of the mosque plan during the first six centuries of Islam. Tracing its

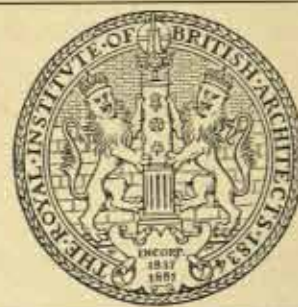
development with minute detail, Miss Bell shows it to have been simply an extension of the idea of the primitive Arab courtyard, which itself was always invested with a kind of sanctity. The mosque at Mekkah, of course, was a thing apart; its arrangement could never be the same as that of ordinary mosques; in fact, Tabari is quoted as saying: "And such was the mosque (at that time), with the exception of the mosque at Mekkah which they would not imitate." The first mosque was the courtyard of Mohammed's house at Medina; the congregation faced Jerusalem (i.e., north), and on this side there was a roof of woven palm-leaves, supported on wooden columns. After his quarrel with the Jews everything was reversed; a door was pierced on the northern side and the congregation faced Mekkah (i.e., south). Improvements were carried out by Uthman, and later by al-Walid. The earliest mosques were built on columns, the earliest extant example of a mosque with the arches resting on piers being, Miss Bell says, probably that at Harran, parts of which may date from the eighth century. It is interesting to learn that the maksūra and the mihrāb were copied, the one from the Imperial enclosed dais of Byzantine churches, the other from the Christian apse. The mihrāb was received with some reluctance by Islam; it was considered to be the least holy part of the mosque, and the Imam was earnestly warned not to take up his position within it. In keeping with this idea, the exceedingly early mihrāb in the mosque courtyard at Ukhaïdir is entirely without decoration. Towards the close of the Umayyad period the two steps and a seat of the Prophet's minbar gave way to the high pulpit. Miss Bell thinks this probably came from Christianity also, as the minbar which was set up in the time of 'Abd al-Aziz ibn Marwān (A.D. 685-705) in the mosque of 'Amr is said to have been taken from a Christian church.

Continuing the history of the evolution of the mosque plan, Miss Bell gives on plate 92 a plan of the so-called mosque of Ṣalāh al-Dīn at Mayāfīrīn. This plan is of great interest, as it is one of the earliest yet published of a mosque in which the dome plays an important part. Up to this time the arcaded cloister type appears to have prevailed, at least in Mesopotamia and Egypt, though this may not have been the case in Persia. The central part of this mosque dates from the second half of the twelfth century; the wings are later. An illustration of its very finely decorated façade is also given.

The date of Ukhaïdir is discussed in the last chapter. It cannot be earlier than 711, Miss Bell says, because it contains a mihrāb, a feature not introduced into Islam till A.D. 709-11, according to Makrizi. Its latest date she considers to be the khalifate of Harūn al-Rāshid, its most probable date architecturally to be about A.D. 750.

In conclusion, it is not too much to say that under each heading Miss Bell, with the whole available literature at her finger-tips, exhausts her subject, and the book is a model for all time of the scientific method.

K. A. C. CRESWELL.



9 CONDUIT STREET, LONDON, W., 6th March 1915.

CHRONICLE.

R.I.B.A. Record of Honour: Seventh List.

Subjoined is the Seventh List published in these pages of Fellows, Associates, Licentiates, and Students R.I.B.A. who are serving the country in the Army or Navy for the period of the War, the total to date being 33 Fellows, 214 Associates, 90 Licentiates, and 128 Students*:

FELLOWS.

Andrew, David, Jun.: Major, 15th Bn. Highland L.I.
Baily, B. E.: Capt., 7th Bn. Sherwood Foresters.
Brewill, A. W.: Lt.-Col., 7th Bn. Sherwood Foresters.

ASSOCIATES.

Adams, M. S. R.: Royal Naval Air Service.
Alexander, G. L.: Post Office Rifles.
Besant, H. S.: Royal Engineers.
Bownass, J. E.: Princess Patricia's Canadian L.I.
Bulmer, F. H.: R.A.M.C. (T.).
Bush, F. T.: 29th Bn. Vancouver Regt.
Callender, G. W.: 2nd Lieut. 13th Bn. Worcestershire Regt.
Calvert, C. H.: Royal Horse Artillery.
Clarke, J. M.: Artists' Rifles, France.
Collings, T. H. O.: Active Service, France.
Cubey, J. B.: 2nd Lt., 23rd Bn. Northumberland Fusiliers.
Godwin, W. Hubert: 3rd Bn. Royal Warwickshire Regt.
Gutteridge, R. F.: Capt. 5th Bn. Hants Regt.
Lovell, Charles, E.: Lieut., 9th Bn. R. West Kent Regt.
Matthews, B. F.: 2nd Lieut., Royal Artillery.
Scott, Theo. G.: British Red Cross Society, France.
Stanley, Gerald: Lieut., 4th Bn. Wilts Regt.
Sullivan, B. M.: Punjab Light Horse.
Travers, Wilfrid: 2nd Lt., 11th Bn. Cheshire Regt.
Watson, W. E.: Lieut., 1st City of London R.F.A.
Woods, Frank: Royal Engineers.
Wyld, R. S. B.: Royal Naval Air Service.

LICENTIATES.

Duncanson, E. Ford: Motor Boat Reserve.
Elwes, R. Gervase: Grenadier Guards.
Galletly, J. T.: Lothian and Border Horse.
Geeson, H. L.: East African Rifles.
Jackson, C. E.: Uganda Volunteer Coy.
James, A. G.: 2nd Lieut., 4th Bn. Northampton Regt.
Leggett, M. C. M.: Uganda Volunteer Coy.
Myers, John: East African Mounted Rifles.
Pease, T. S., Jun.: Capt., R.G.A. (T.).
Pearson, L. G.: Royal Army Medical Corps.
Rogers, W. H.: Royal Naval Air Service.
Stroud, A. W.: Chief Petty Officer, Royal Naval Air Service.

STUDENTS.

Charlewood, G. E.: Army Pay Department.
Davison, W. R.: O.T.C.
Garrett, S. C.: Lieut., 1st Home Counties Field Co., R.E.

* The previous lists were published in the JOURNAL for 26th September, 17th October, 7th November, 21st November 1914, 9th January and 23rd January 1915.

**London County Council (General Powers) Bill, 1915:
Withdrawal of Parts III. and IV.**

At the meeting of the London County Council on the 23rd February the Parliamentary Committee reported that they had given consideration to the question of the action which the Council should be recommended to take with regard to the proposals in Parts III. and IV. of the London County Council (General Powers) Bill, 1915, in view of the large amount of opposition which was threatened.* A deputation from the executive committee of the Metropolitan Boroughs Standing Joint Committee had attended before the Parliamentary Committee, and had urged that the effect of the proposals would be to diminish the existing powers of the Metropolitan Borough Councils in regard to drainage matters, and that if any new powers could be shown to be necessary, they should be in the hands of the Metropolitan Borough Councils. It appeared that amendments to meet the views of the deputation would be of such a drastic character as to involve the entire recasting of the clauses of the Bill. The deputation stated that practically the whole of the Metropolitan Borough Councils had decided to offer the most strenuous opposition to the proposals, and they suggested that the provisions of this part of the Bill should be withdrawn for the present Session, and that, in the meantime, the Council and the Metropolitan Borough Councils should confer with the object of arriving at some agreement as to the nature of the measures to be taken to deal with the difficulties experienced by the Council. In these circumstances the Parliamentary Committee recommended that the proposals contained in Part III. (Drainage of Premises) and Part IV. (Buildings on Low-lying Land) of the Bill should not be proceeded with further. The recommendation was adopted.

The Ideal Rural Cottage.

The Board of Agriculture and Fisheries have issued a pamphlet drawing attention to the report of the Advisory Committee appointed to consider and advise upon plans, models, specifications, and methods of construction for rural cottages and outbuildings. The committee consisted of Mr. Christopher Turnor (chairman), Mr. Cecil Harmsworth, M.P., Mr. Raymond Unwin [F.], Mr. Lawrence Weaver [Hon. A.], and Mr. C. E. Varndell [A.].

The report of the Committee contains illustrations of twenty-three types of cottages for rural labourers. Four are for single cottages (including two bungalows), thirteen are for pairs, and six for blocks of four. The accommodation provided includes a living-room, scullery, larder, and three bedrooms. Ten of the designs represent a selection made by the Committee from the prize-winning designs in the cottage-planning competition organised by *Country Life*.

The designs from which the illustrations in the report are reduced are published separately on the scale of

a quarter of an inch to the foot. The price of each sheet is 1s., and the drawings may be obtained through any bookseller.

British School at Rome.

The Annual Report for 1913-14 of the Faculty of Archæology, History, and Letters states that the number of Students and Associates on the books of the School was about eighty—much the same number as the previous year. The most important event was the arrival of the first group of the Scholars of the Faculties of Architecture, Painting, and Sculpture, and of the first Jarvis Scholar of the R.I.B.A. Though the candidates for these scholarships were few, the standard attained was a high one. The fact that the students are appointed for three years (except the Jarvis Scholar, who remains for two years only) makes for the first time a permanent nucleus in the School, the value of which in the future will be very great. The students of the British School have for the most part been at a disadvantage as compared with their foreign *confrères* owing to the short term of residence which they have been able to enjoy in Rome, except in comparatively few cases. To enable the students of the Faculty to take a full share in corporate research it is desirable to secure that some of them should remain for more than one season; and now that the moment is approaching when all the students of the School will begin upon a common life, it will be a great advantage if a tradition of good work and of good fellowship between them can be established and maintained. The Faculty of Archæology, History, and Letters would therefore be most gratified if it were made possible for it to establish one or more studentships tenable for two or three years in Rome, so that its best students might have equal advantages with those of the other Faculties.

Mr. H. Chalton Bradshaw (*Student R.I.B.A.*), the first of the Scholars to be appointed by the Faculty of Architecture, arrived in Rome in March. He has so far mainly devoted his attention to a series of drawings of the Villa di Papa Giulio, which he is making in conjunction with Mr. Louis de Soissons (*Student R.I.B.A.*), the first Jarvis Scholar to be appointed by the R.I.B.A.

In the universal dislocation caused by the war the completion of the new home of the School has been seriously delayed; and the buildings cannot be got ready for the reception of Library, Staff, and Students by the date of expiry of the present lease of the Palazzo Odescalchi (March 1915). Thanks, however, to the good offices of the British Ambassador at Rome and to the kindness of the Italian Government, an extension of the lease has been granted to the end of July. It is hoped that the next Session will be opened in the new buildings.

Many of the Students have volunteered for military service, but there is still good work to be performed by the Staff in Rome. The Faculty therefore makes a strong appeal to subscribers to continue their support during the war, in order that the international work of

* See the R.I.B.A. Petition against the Bill, *JOURNAL*, 20th February 1915.

the School in Rome may be maintained. Although the institution was originally founded and is mostly maintained by private generosity, yet it claims by its title as well as by its work to be a public institution of high importance. As representing the national interests in a foreign country, the School must be prepared to take a leading place in Rome when the War is over, and to exhibit a vigorous life during its continuance.

Alma-Tadema Memorial.

It will be remembered that the original proposal for the Alma-Tadema Memorial was to place a reproduction of the late Onslow Ford's bust of Sir Lawrence, with an appropriate pedestal, in some public gallery, and to devote whatever sum should be in hand—beyond the cost of this memorial—to the purchase of Sir Lawrence's unique Art and Archaeological library, with a view that it should be presented to some (by preference the same) public institution.

The proposal of the Committee has been somewhat modified by a most generous offer on the part of the Misses Tadema to present to the Committee the original marble bust of their father executed by Onslow Ford, together with the pedestal designed by Sir Lawrence himself; and it is felt that by the gift of this most interesting monument to their father's memory the first purpose that was before the subscribers has been most adequately and fully accomplished. The Committee therefore propose that the funds raised shall be entirely devoted to the second purpose of the memorial—viz., the purchase of Sir Lawrence Alma-Tadema's library, which includes portfolios of drawings and studies by his own hand, and also compiled memoranda and photographs.

The intention was to place the library, together with the bust, in some public institution in London readily accessible to artists and students of Art and Archaeology as "The Alma-Tadema Memorial Library." The Committee announce that this intention and these conditions have been very satisfactorily fulfilled by reason of the action taken by the Board of Education, who, in response to the proposal—very kindly submitted by Sir Cecil Smith—have informed the Committee that should the offer be made to present the library and bust to the Victoria and Albert Museum, it would be most gratefully accepted. The Board agree that the library should be kept separate from the bulk of the Museum Library, in accordance with the wishes of the Memorial Committee.

The space assigned and the manner of placing the library and bust, as proposed by the Director, seem all that could be desired, and the Committee are of opinion that the selection of the Museum in South Kensington has enabled them to carry out the purpose they had in view to the fullest extent.

The members of the Committee express their great indebtedness to Sir Cecil Smith for his very kind assistance in bringing their labours to so successful a conclusion.

Proposed Anglo-Russian Building Trades and Decorative Arts Exhibition at Petrograd.

Mr. H. Cooke, H.M. Commercial Attaché for Russia, reports that a desire has been expressed in architectural and art circles in Russia to free themselves from the predominant German influence on the architectural and decorative arts of the country, and to replace it with British ideas. With this end in view the Russo-British Chamber of Commerce, at the instance of Professor Kosiakoff, the President of the Russian Architectural Sciences Society, is inviting the co-operation of British Architectural Societies and persons connected with the building and decorative trades for the purpose of holding at Petrograd, after the War, an Anglo-Russian Building Trades and Decorative Arts Exhibition. All communications in this connection should be addressed to The Secretary, Russo-British Chamber of Commerce, 4, Gorochovaia, Petrograd.

The American Institute of Architects.

Under the heading "The Shadow over all," in the JOURNAL for 9th January, appeared extracts from Mr. Clipston Sturgis' Address to the Annual Meeting of the American Institute of Architects held at Washington on the 2nd December. In the same Address Mr. Sturgis deals in a very interesting way with the aims and aspirations of his Institute as the guardian not only of professional but of the public interests where architectural matters are in question. He says:

The individual will always be looked upon as an interested, and therefore not unprejudiced, adviser; but the Institute is impersonal and disinterested, and here lies the real strength of the organisation.

In all that the Institute has done in the establishing of better standards, it is the impersonal, unselfish attitude which has carried weight; and this will always be true, if it is understood. But a public used to expect interested motives must be convinced that the aims of the Institute are disinterested; and this every individual can help to do.

Take four examples: The Schedule of Charges is established to insure the right kind of professional service, by removing the temptation to poor—worse still, dishonest—service, which an inadequate payment invites. The standard of service thus established is of real value to the owner.

The circular on Competitions has been issued to insure the owner receiving what he has a right to expect when he institutes a competition—namely, a choice among the best that architects can offer. Under old systems a competition was a lottery for the owner as well as for the architects, and capable men and busy men did not care to enter. There were, and there always will be, applicants for these lottery tickets, but it is not to the advantage of the owner either to buy them or receive them for nothing.

The Code of Ethics has been established to set a standard which shall bind all members of the Institute and influence all practising architects to deal honestly and uprightly with the owner as well as with their fellow-architects.

The Committee on Education has shown the unselfish attitude of the Institute in encouraging and fostering architectural education not only in the schools, where the

well-to-do can afford to study, but in the ateliers and clubs, where draughtsmen, unable to afford the schools, can prepare themselves for a fuller and better service.

In each of these four the reverse side is claimed. The Schedule—an attempt to fix high rates for the benefit of the members of an organisation. The Competition Circular—to limit competition and keep the work in our organisation. The Code of Ethics—to eliminate those who might otherwise encroach on our field. The Education of the draughtsmen—so that they will remain draughtsmen, but be of more service to us. These latter are *not* the aims of the Institute, and every member in his practice and in his dealings with the owner will see that his example makes this clear.

The public constantly shows its belief in the low and interested point of view, and there are those, both outside the Institute and within its membership, who give colour to such belief by their attitude. We must face these facts and prove through our individual practice that we are a professional body with high standards, not a selfish trade organisation concerned only with its own interests. . . .

In architecture more than in any other profession co-operation is the keynote, and this must be based on mutual understanding. Those who work together and realise their interdependence must necessarily be humble. Neither one's successes nor, thank God, his failures are wholly attributable to the individual, and, knowing this, one will hesitate before judging. There are an infinite number of pitfalls for the architect, who is expected to know something of so many things. The things required of the architect are many and diverse. He is a creative artist, a master of building construction, an engineer, and a business executive. In all of his work the emphasis will come on one or another of these four. There are men who represent primarily each one. There is the shrewd business man, with his real estate and Press agents, his promoting activity, his judgment in selecting his men, draughtsmen and engineers, to carry through his work, construct, equip, design his buildings. There is the engineer who, occupied primarily with problems of engineering, adds an architectural draughtsman as a side issue, and finds he can obtain and execute work in which planning, construction, and design are all as important as engineering. And, finally, there is the creative artist, whose sole interest lies in his imaginative art, and who treats construction and business administration as a side issue. All these exist, and all are incompletely equipped and render imperfect service as architects.

There are also men who might fairly be classed as eminent in more than one branch of the profession; but the man who can perform all the service rightly demanded of an architect, and do it all well, does not exist. For this reason architecture, in its most complete and perfect sense, must be composite work, in which all phases are considered and given their true importance. To determine fairly who may in justice and right term himself an architect is the problem that confronts those who have the duty of licensing architects. Possibly only those deserve the name who recognise clearly what they do not know and have the judgment to put such work into the hands of men who do. A more careful consideration for the claims of others who, rightly or wrongly, practise architecture might lead to a different attitude towards qualification for membership in the Institute. A well-trained landscape architect who begins to practise architecture at once qualifies for a nomination for the Institute; an engineer who makes a partnership with an architect similarly qualifies. Many engineers practise architecture who in executive ability and knowledge of construction can render as effective service along many

lines as a man who is without question an architect. These matters are worth considering, for they indicate that architecture is complex, demands for its perfection many minds, many qualities, and, above all, consideration of the claims of others.

As the Institute recognises and upholds complete and perfect service, so will the public, quick to appreciate good work, recognise what the Institute stands for. Let us not rest on promises, let us press forward to performance.

Architectural Work in India.

Mr. John Begg [F.], Consulting Architect to the Government of India, in his Annual Report of Architectural Work in India for 1913-14, states that all the major Provinces of the Empire have now their own Consulting Architects,* and that his own office will probably be occupied exclusively in future with Imperial (as distinct from Provincial) work. During the year Mr. Begg has been called upon to furnish sketch plans for the improvements of the Eastern Bengal Railway terminus at Sealdah, and of the North Western Railway Station at Lahore. He has also been consulted about possible improvements to the East Indian Railway Company's Station at Delhi. Mr. Begg considers that this is a very sound way of making use of the services of the Government Architect, for most stations and other railway buildings leave much to be desired from the architectural point of view—which is, after all, merely the public point of view, as distinct from the purely technical standpoint of railway construction and management. It is in matters of this kind that the architect and engineer can collaborate on the most clearly defined lines to the great advantage of the work. Another possible development of which the year has given a sign is the bringing in of the architect on certain portions of irrigation works. Mr. Begg was consulted, for instance, as to the design of the Mangla head regulator on the Upper Jhelum Canal Project. Here again, he points out, "the architect can almost invariably be of real assistance to the engineer specialist, and that without affecting the cost of the work. Indeed, where economy is necessary, the engineer who has an architect by his side would probably be in a better position to cut down expense to an absolute minimum. To the architect such works have a peculiar attraction, as they frequently afford unrivalled opportunities for the handling of great simple masses of materials in a broad and bold manner such as seldom occur in dealing with the design of ordinary buildings. Nor do dams and stations exhaust this field of usefulness for the architect. There are bridges, both road and railway, harbours, docks, power-stations, factory chimneys, etc. Instances are not hard to find of any or all of these in which (though possibly not yet in India) the architect has left his mark to their distinct advantage. An Indian instance is noticed in this Report in the employment of Mr. Wittet, Consulting Architect to the Government of Bombay, on the design of the FitzGibbon Bridge at Poona. Road and street alignments, footpaths, the design of lamp-posts, electric standards, and all the thousand-and-one things that go to make up the big subject of Town-Planning come also into the category."

Mr. Begg gives a list of the works which have occupied

* Members of the Institute filling these posts are Mr. H. A. Crouch [F.], Government of Bengal; Mr. Frank Lishman [F.], United Provinces; Mr. B. M. Sullivan [A.], Punjab; Mr. G. F. Munnings [A.], Behar and Orissa; and Mr. A. N. Peckham [A.], Central Provinces. Assistant Consulting Architects are Mr. T. Oliphant Foster [F.], Mr. H. Phibbs [A.], and Mr. W. J. Keir [A.].

the drawing-boards of his office during the year under report. They include 30 buildings under construction, and 28 not yet begun, or new projects. In the former category are the Nagpur Cathedral, 12 churches (Anglican, Roman Catholic, and Presbyterian), 5 Post Offices, King Edward Memorial (Lahore), Council Chambers (Nagpur and Simla), Forest Research Institute (Dehra Dun), Biological Laboratory (Lahore), Agricultural Laboratory (Nagpur), Residency (Gwalior), Postmaster-General's Bungalow (Nagpur), and the Custom House (Rangoon).

Following Mr. Begg's Report are the Reports of the Consulting Architects and other officers in the Provinces, together with plans and photographic illustrations of some of the works carried out during the year. Of sad interest is the Report of the Consulting Architect to the Government of Burma, Mr. Henry Seton-Morris, whose death has just been announced. This promising young architect was only elected a Fellow last June. He went to India less than two years ago, and had held the position of Consulting Architect but a little over a twelvemonth.

Restoration of Monuments destroyed in the War.

At a recent meeting of the Governing Board of the American Institute of Architects a letter was read from Mr. Powell Evans, a prominent manufacturer of Philadelphia, suggesting that one-tenth of 1 per cent. of gross sales of manufactures arising from specifications of the architectural and engineering professions be set aside for a fund to be used in co-operation with the Department of State for the restoration of architectural monuments destroyed in the European War. The proposal was fully discussed, and it was agreed that the suggestion should be seriously considered. A Committee has been appointed to confer with Mr. Evans and report to the President and Secretary of the American Institute, who are given full powers to act in the matter.

Groynes and Sea Walls.

Members having to do with that very intricate subject the protection of the foreshore, would do well to look up the Paper by Mr. A. T. Walmisley, M.Inst.C.E. [*Hon. A.*], entitled "Groynes and Sea Walls," in *The Surveyor and Municipal and County Engineer* for 29th January. Mr. Walmisley deals exhaustively with the subject, showing the conditions which indicate the employment of certain forms of groynes, and giving numerous plans, elevations, and sections of examples now existing on the foreshore at various points of the English coast.

COMPETITIONS.

Re-planning of Bradford Streets.

The Corporation of Bradford invite competitive designs for the re-planning of streets in the central area of the city. Mr. Reginald Blomfield, R.A., will act as assessor. Particulars may be obtained from the Town Clerk, Town Hall, Bradford.

OBITUARY.

Sir Charles Augustus Hartley, K.C.M.G., F.R.S., the distinguished engineer, who died on the 20th inst., aged ninety, had been an Honorary Associate of the Institute since 1878. Early in his career he achieved world-fame as an hydraulic engineer. In 1867 he was asked by the Government to report on engineering questions connected with the River Scheldt, and he was consulted about the improvement of the harbour of Trieste, and in regard to the rivers Don and Dnieper, and the harbours of Constanza, Bourgas, and Varna. His plans for the enlargement of the harbour of Odessa won a prize offered by the Czar in 1867. His name is especially associated with the extensive works carried out for the improvement of the navigation of the Lower Danube, which resulted in the increase of the normal depth of the channel from 9 feet to 19 feet, and in the practical stoppage of the terrible shipwrecks and consequent loss of life which had given to the Salina mouth the name of "The Grave of Sailors." In Roumania Sir Charles is regarded as the creator of the river of to-day and is affectionately called the "Father of the Danube." He was consulted by the Indian Government in respect of the improvement of the Hooghly below Calcutta and of Madras Harbour, and by the President of the United States as to the best means of opening the South Pass of the Mississippi to navigation. He was one of the Commission appointed to consider the question of widening the Suez Canal. Sir Charles Hartley served in the Crimean War as Captain of Engineers of the Anglo-Turkish contingent.

Edwin Arthur Johnson [*Fellow 1899*], of Abergavenny, whose death was recently announced, was articulated in 1870 to Mr. Thomas Barnard, of Leicester, and was afterwards in the offices successively of Mr. Charles Taylor (Cardiff), Messrs. Berney and Monday (Croydon), and Mr. Alexander (Stockton-on-Tees). He began practice in 1880 at Abergavenny. His works include various street improvements in Abergavenny, under Act of Parliament; St. John's Church, Rogerson, Newport; Birmingham District Banks at Abergavenny and Brecon; Clarence Hall, Crickhowell; Central Hall, Ebbw Vale; new nave and aisle, Parish Church, Dowlais; new nave, Holy Trinity Church, Abergavenny; Public Offices, Merthyr; Intermediate Schools, Abergavenny; New Infirmary, Merthyr; and the Grammar School, Abergavenny.

William Newton Dunn [*Associate 1882, Fellow 1906*], who died on the 23rd December last, served his articles with Mr. George Barnes Williams, of Mercers' Hall, E.C., and was afterwards for four years in the same office as assistant. He started practice in 1873 at 157 Fenchurch Street, removing the following year to 1 and 2 Bucklersbury, Cheapside. Among his principal works are the Board of Works Offices, East Hill, Wandsworth; Chapels, Lodges, New Front, and Baptistery, Streatham Cemetery; St. Mary's Church, Balham; All Saints Church, Streatham; Eversley

Ladies' School, Folkestone; and the Rectories of Tenby, Llanhaden, Gurfreston, and Jeffreston, Pembrokeshire. He was the architect of numerous private houses and blocks of shops, and of the large factory at Bermondsey for Messrs. Welch, Margetson & Co. His son, Mr. Gerald M. Dunn [A.], was associated with him in partnership and is continuing the practice at the same address in Bucklersbury.

Frederick Robert Edwin Sladdin [*Licentiate*] died at Rondebosch and Mowbray Cottage Hospital, near Capetown, on 10th January 1915, aged 34 years. Born in London in 1881, Mr. Sladdin served his articles with Messrs. Young & Brown, surveyors, of London, with whom he remained associated until 1905, with his private office at 7 John Street, Adelphi, from 1903. In 1905 he settled at Capetown, joining his brother, Mr. Thomas Arthur Sladdin, F.R.I.B.A., where they practised as Milne & Sladdin until March 1910, when the partnership was dissolved, Mr. T. A. Sladdin going to Salisbury, Rhodesia, and the deceased taking over all interests in the firm at Capetown, with office at Union Castle Buildings, Adderley Street. Mr. F. R. E. Sladdin was a Fellow of the Surveyors' Institution. He was elected Associate Member of the Cape Institute of Architects (allied to the R.I.B.A.) on the 18th October 1910, and Fellow on the 24th April 1913. The funeral, which took place at Woltemade No. 1 Cemetery, was largely attended by friends and members of the profession and of the Cape Institute, which was formally represented by its Past President, Mr. Arthur H. Reid, who also attended as Hon. Secretary in South Africa to the Royal Institute of British Architects. Mr. Sladdin during his ten years' practice in Capetown had won the esteem of the profession generally, and at the time of his decease was serving upon the Council of the Cape Institute, where his shrewd common-sense and uniform courtesy had secured the respect of the governing body, whose sympathy goes out to his young widow and child now in England.—ARTHUR H. REID [F.].

LEGAL.

District Surveyors and the London County Schools.

DAUBNEY & AKKES & CO., LTD.

This was a case heard before Mr. A. E. Gill, Magistrate at the Tower Bridge Police Court, in respect of a claim from the builders for fees amounting to £7 6s. 3d. by the District Surveyor, Mr. Charles Archibald Daubney, on work done to a Public Elementary School belonging to the L.C.C. at Southwark Park, Bermondsey.

Mr. F. F. Daidy, on behalf of the Plaintiff; the Solicitor to the L.C.C. on behalf of the Defendants.

Mr. Gill gave judgment as follows:—

This is a complaint by the District Surveyor under Sections 154 and 157 of the London Building Act, 1894, claiming fees in respect of work done by the defendants as contractors to the London County Council at their school in Southwark Park Road, which is situated in the complainant's district. It is admitted that if anything is due, the amount claimed is correct.

It has been proved or admitted that the work in question

was done upon buildings "according to plans which are, under regulations relating to the payment of grants, required to be, and have been, approved by the Board of Education" within the meaning of Section 3 of the Education (Administrative Provisions) Act, 1911, under which Act "any provisions in any local Act dealing with the construction of new buildings" do not apply "in the case of any new buildings being school premises to be erected according to" such plans.

The work in question consisted of (1) extensive alterations to the Infants' Department; (2) the addition of a new wing.

In July last an information laid by the present complainant against the defendants for failure to serve a building notice under Sections 145 and 200, Sub-section 11 (b), in respect of the same work was heard by me at this Court. I then held that the wing was not a new building, but an addition to an existing one.* It has been contended that that finding is in the nature of a judgment *in rem*, or a judgment *inter partes*, creating an estoppel, and so conclusive of the fact in this case.

Assuming that the parties are the same—and it is to be observed that the former proceeding was for a penalty and in the nature of a criminal matter, while this is purely civil—the finding that the extension of the Infants' Department was an "addition" and not a new building was incidental only to the decision in that case. Moreover, that finding was not essential to the conviction, because, on the view that I took, a building notice should have been served in respect of the alteration.

I have, therefore, held that it is open to the defendants to raise this question again in these proceedings, and admitted the evidence. I, however, see no reason to alter the opinion that I then formed, and accordingly hold for the purposes of this complaint, and for the reasons which I then gave and need not repeat, that the extension of the Infants' Department is not a "new building" but an "addition" to an old one.

Under the London Building Act, 1894 (see 3rd Schedule), the District Surveyor is entitled to fees in respect to "additions" to and "alterations" of existing buildings as distinct from "new buildings," and the second point which I have to consider is whether that right is affected by the Education (Administrative Provisions) Act, 1911, Section 3.

In terms the latter Act only exempts "new buildings." It has been suggested that an "addition" within the meaning of the London Building Act, 1894, might be "a new building" within the meaning of the Act of 1911. But I think no argument has been addressed to me in support of the contention, if the contention is made, that the right of the District Surveyor to fees in respect of alterations is affected by the Act of 1911.

It appears to me that the right of the District Surveyor to fees in respect of additions and alterations remains unaffected by the later Act. I am confirmed in this view by observing that in the case of *Holliday & Greenwood, Ltd. v. District Surveyors' Association (Incorporated) & Dicksee* (78 J.P. 262), it was not contended that the Act of 1911 exempted the builders from serving building notices in respect of alterations and additions to school premises, although the plans had been duly approved by the Board of Education. The appellants pleaded guilty to the information for failing to serve a building notice in respect to the alterations to existing buildings at the Victory Place School. And the Divisional Court referred back to the Magistrate the information for failing to serve a notice in respect to the new wing of the Paragon School, for him to determine whether this work was a new building or an altered building. The Court appears to have been of opinion that, as far as alterations or additions are concerned, a building notice should be served notwithstanding the Act of 1911.

The principal point raised for the defence is based upon the particular facts of this case. It is contended that the District Surveyor had not and could not have any duties to perform, and that, therefore, he is entitled to no fees. A distinction is sought to be drawn between the facts of this case and those in *Galbraith v. Dicksee* (74 J.P. 348), and reliance is placed on the decision in *Westminster Corporation v. Watson* (1902, 2 K.B.

* Reported fully at page 656 of the JOURNAL R.I.B.A. for 29th August 1914.

717). That was a case relating to wooden structures the licensing of which had been transferred by statute from the London County Council to the Borough Council. I doubt if the dicta relied upon mean more than that a District Surveyor is not entitled to his fees who purporting to exercise functions under the London Building Act for the purpose of claiming a fee proceeds to inspect a structure to which the Building Act has no application, or which he knows to be of so insignificant a character that there is nothing for him to inspect. Can it be said in the present case that the complainant had no duty to inspect when he learnt that these building operations had begun at the Southwark Park School? Until his inspection he had no knowledge of the nature and extent of the work.

Although the building is exempt under Section 201 (5) from Parts VI. and VII. of the Act, there are questions upon which he has to satisfy himself arising under other parts of the Act, questions of height, of frontage, of prescribed distance, and possibly others. By Section 160 he is required to make a monthly return of every building which has been *enlarged or altered*, and by Section 161 his signed return is to be deemed a certificate that "all the works enumerated therein as completed have been done in all respects in accordance with the Act to the best of his knowledge and belief, and that they have been duly surveyed by him." It is urged that by Section 201 (5) the District Surveyor is relieved of all duties in respect of materials and method of construction, and that as the buildings are a considerable distance from the street, and the elevation of the old building has not been raised, and the addition has no storey above the ground floor, no question as to the building line or height, in fact, arose. It appears to me, nevertheless, that these are facts which it is the duty of the District Surveyor to ascertain.

It may be that a cursory examination of the plans or of the works in hand was sufficient in this case to reveal that there was no breach of the Building Act in those respects. It does not, however, follow that the duty of the District Surveyor would have been more onerous if the addition had been more than one storey high and in proximity to the street. It might still have been obvious on mere inspection that it was within the building line and below the limited height.

It has been urged that no question can arise with regard to building line, because the London County Council can consent to the erection of a building beyond the building line—Section 22 (1). A similar argument in respect to height was advanced in the case of the *London County Council v. District Surveyors' Association & Willis* (73 J.P. 292), and did not commend itself to the Court. It may be true that in this case the complainant's duties have been light. He has merely visited the premises from time to time, ascertained what was the work in hand, and satisfied himself that no breach of the Building Act was contemplated or committed. If it is contended that the fees in the Schedule are excessive for these services, the answer appears to be that they are the method of remuneration prescribed by the Act for carrying out the general duties of a District Surveyor. And if the fees are excessive the London County Council by Section 154 (1) has the remedy in its own hands. As the Lord Chief Justice observed in *Galbraith v. Dicksee*: "If there was any ground for saying that these fees were too high, having regard to the work that had to be done, under such circumstances other fees might have been laid down by the Council" (74 J.P., page 351).

It appears to me that this case is covered by the authority of *London County Council v. District Surveyors' Association & Willis* (73 J.P., page 291) and *Galbraith v. Dicksee*, *supra*. See in particular the following passages in the judgment of the Lord Chief Justice in the latter case: "Mr. Lush only made his argument possible by using the words 'supervising the work' in a case which is not properly applicable to the case at issue. It is not supervising the work; it is doing the work or duty of a District Surveyor. I do not wish to repeat myself, but it cannot be seriously disputed that under Part V. of the Act the Surveyor has many things to watch; he has to watch the height; he has to watch the building line; he has to watch the bye-laws. It may be in a case of this kind none of those things are likely to be infringed; but, at the same time, we

have the Act to deal with. . . . Mr. Lush has said that in this particular case he would have to do nothing. That may be perfectly true, but it does not follow because he has nothing to do in a particular case he will have nothing to do in any case. . . . I cannot help pointing out that the Third Schedule, which is a schedule as to fees, contemplates fees which are for general services, and fees which are in many cases for no services at all, and fees which are for special services. Mr. Lush's argument proceeds on this basis, that unless you can show that the Surveyor has done some work of which the County Council get the benefit, he is to have no fee at all. That would strike at the root of this sort of general fees paid to the Surveyor as such, because a building is being erected in his district, over which building he has got some—I must use the word 'supervision,' because I cannot use a better word—some supervision under the Act other than Parts VI. and VII."

Judgment was given for the amount claimed, with 23 guineas costs.

MINUTES. IX.

SPECIAL GENERAL MEETING: ROYAL GOLD MEDAL.

At a Special General Meeting, convened in accordance with the By-laws to elect the Royal Gold Medallist for the current year, and held on Monday, 1st March 1915, at 8 p.m.—Present: Mr. J. Alfred Gotch, F.S.A., *Vice-President*, in the Chair; 14 Fellows (including 7 members of the Council), 6 Associates (including 1 member of the Council), 1 Hon. Associate, and 1 Licentiate:

On the motion of the Chairman, seconded by Mr. Wm. Woodward [F.], it was unanimously

RESOLVED, That subject to His Majesty's gracious sanction the Royal Gold Medal for the promotion of Architecture be presented this year to Mr. Frank Darling, of Toronto, Canada, for his executed works as an architect.

This concluded the business of the meeting.

BUSINESS GENERAL MEETING: ELECTION OF MEMBERS.

At a General Meeting (Business) held Monday, 1st March 1915, following the meeting above recorded, and similarly constituted, the Minutes of the Meeting held 15th February 1915, having been published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary announced the decease of the following members: Austin Heyes, *Associate*, elected 1887; Arthur Marshall, *Associate*, elected 1882; and Thomas Woodbridge Biggs, *Licentiate*, elected 1910.

The decease was also announced of Sir Charles Augustus Hartley, K.C.M.G., F.R.S., *Hon. Associate*, elected 1878, and on the motion of the Hon. Secretary it was resolved that the regrets of the Institute for the loss of its distinguished Honorary Associate Sir Charles Hartley be recorded on the Minutes, and that a message of sympathy and condolence be conveyed to his near relatives.

The Hon. Secretary announced the receipt of a number of books presented to the Library, and a cordial vote of thanks was passed to the donors.

The following gentlemen attending for the first time since their election were formally admitted by the Chairman: Charles William Bowles, *Fellow*, and James Henry Puntin (of Regina, Canada), *Licentiate*.

The Secretary announced the nomination of John Alexander Ogg Allan, *Godwin Bursar* 1909, *Inst. Medallist (Essays)* 1910, *Licentiate* 1912, as a candidate for the Fellowship.

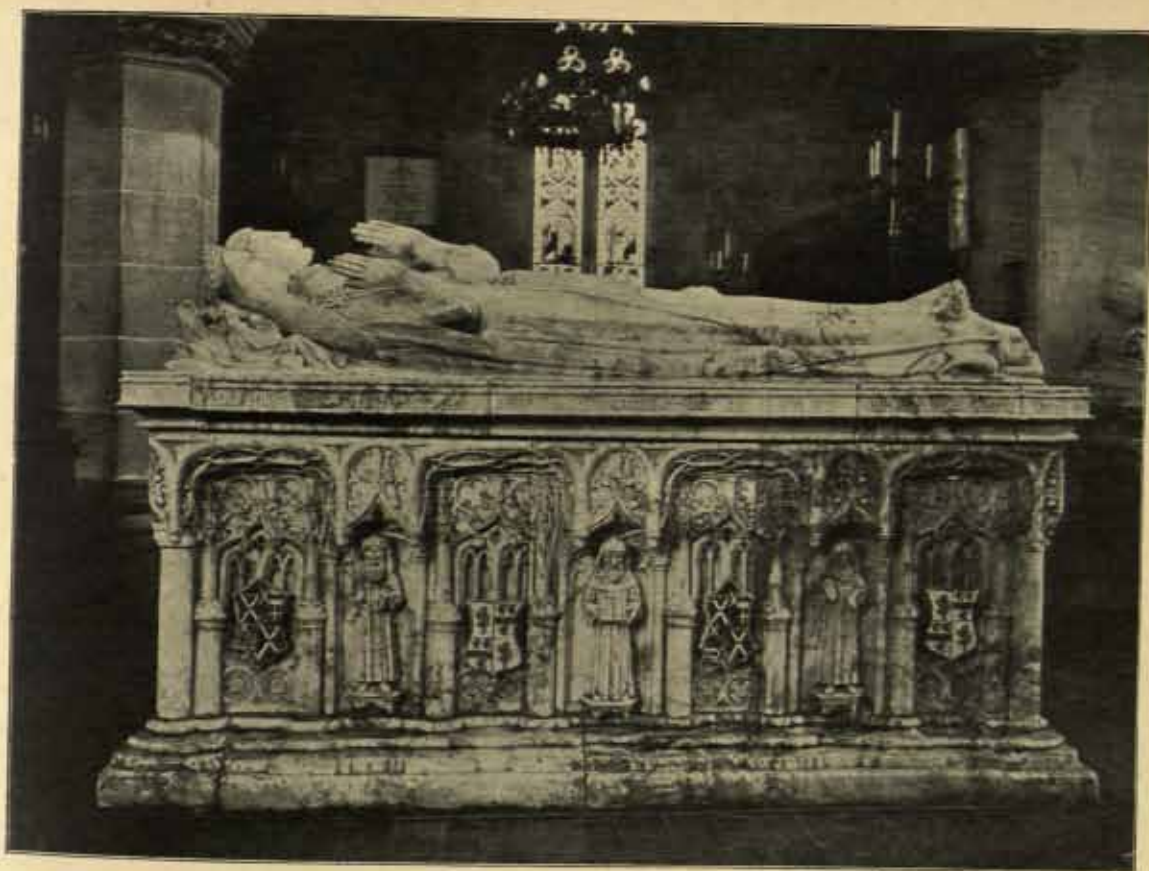
The following candidates were elected by show of hands:—

As ASSOCIATE: MACGREGOR, JAMES.

As HON. ASSOCIATE: PEACOCK, WALTER, M.V.O.

The Chairman called attention to the measured drawings and sketches on the walls representing the work done by Mr. A. G. Horsnell [A.] during his tour in France and Italy as Soane Medallist 1910.

The proceedings then closed and the meeting separated at 8.20 p.m.



Elford, Staffordshire: Tomb of Sir W. Smythe (1525).

Photo: Fred. H. Crossley, Kintaford.

ENGLISH CHURCH MONUMENTS.

By JAMES WILLIAMS.

Read before the Royal Institute of British Architects, Monday, 15th March 1915.

ONE of the chief objects in the study of mediæval art is the lesson it conveys in the rise and fall of the great governing principles which influenced its development, to unparalleled excellence on the one hand, and to the neglect of the essential ideals which slowly led to degeneration on the other. The history and progress are seen best in the works themselves, better than in any description that can be given. The wide range of monumental art illustrates this in a way that other branches of work fail to present with such convincing sequence. To-day, with the natural evolution of thought, the religious outlook has entirely changed from that of the mediæval position; but the more the subject of monumental art is considered, the more one is impressed with the deep religious feeling that pervades the work of the best periods, and this was evidently the basis of inspiration for the consummate beauty and the infinite resources for which the work is justly noted. Another important lesson, amongst many others, which the study of this subject teaches, is the immense value and possibilities of honest craftsmanship, which alone has produced all the various objects that we as a nation most prize; but now with the general use of machinery hand labour has largely died out, the workman has been robbed of his greatest heritage, and the creative powers of a whole nation of workers are asleep.

Various works have appeared in recent years dealing with the different aspects and details of monumental art; I will only mention two, that by Messrs. Brindley and Weatherley, containing illustrations of many of the finest tombs in Europe, and that invaluable work by Messrs. Prior and

Gardner, *An Account of Mediæval Figure Sculpture in England*, which forms such an important feature of the monument.

The history of the English monument may be said to commence with the introduction of Christianity, and it has been stated that by the second century Christians were to be found in almost every part of the Roman Empire. Tertullian, in 208, states that when Severus went to quell the northern tribes of Britain Christianity had found its way there. The Romans were perhaps the first to erect stone tombs and headstones here, displaying sculptured busts and heads.

The northern invaders of Europe from about the end of the fifth to the eighth century are represented in some parts of our country by monuments and crosses showing rude interlacing patterns of Scandinavian character. The advent of Christianity made an entirely new outlook, and the cross provided a great and permanent motive for the carver's art, though it was not generally adopted until Saxon times. From the eighth to the twelfth century there are many monuments in the three Kingdoms decorated with frets, lozenges, and runic work. The precise origin of some crosses put up in these early times is a matter of debate; some belonging to the seventh and eighth centuries in the North and West of England are supposed to be of Coptic origin. Many were destroyed by the Normans, or were used as building material in the new churches which they erected.

Of the various things influencing the character of the monument the materials of which they were made and the quarries and workshops that produced them are interesting points. The country abounds in good stone and marble. From the earliest times the quarries, their nearest towns, and the great churches have been centres of monumental masons and their works. Throughout the Middle Ages flat tombs, marble and stone effigies, stately monuments, retables, saints, and angels were made and kept in stock and distributed throughout the country. In these times, when everything was made by hand, the number of skilled workmen was much larger in proportion than it is to-day. London was perhaps the chief city for all the arts, although every large town was a self-contained centre.

Purbeck marble from Dorsetshire had been used for architectural purposes in Roman times, and from the twelfth century a considerable trade was done in the shop-made carved and moulded caps and bases, shafts, fonts, carved effigies, slabs, altar tombs, and blocks of this material. Purbeck became an important centre and school of masons. A royal palace was at Corfe. Some of the marblers from Corfe came to London and Westminster, and settling down worked in the shops of the effigy makers. The early effigies are said to have been copied from those made of a dark-coloured marble coming from Tournai. The chief Purbeck effigies were made from about 1150 to 1300, and those of the London school, consisting chiefly of bishops and knights in armour, were much in favour, and were copied in stone throughout the country. Trade fell off in the early part of the fourteenth century when alabaster was introduced and became generally used for the effigy and monument. Purbeck marble, however, continued in use for monumental purposes, apart from the figure, down to the sixteenth century. The shop production of Purbeck marble and stone effigies in the mediæval period was an outcome of the early carving, and it accounts for the number of conventional cross-legged figures which are to be found all over the country and have little connection with the attitude which is supposed to represent a crusader.

Effigies and monuments of stone were produced before as well as concurrently with those made in Purbeck marble and alabaster. Beautiful as the Purbeck effigies are, the marble was worked to its utmost limits. The masons of Wells, before 1200, had made the effigies of their bishops in Douling stone. Many others came from the same shops, and when the Purbeck industry declined Bristol and Wells, amongst other places, became famous partly through their nearness to quarries of good stone, which always commanded the chief trade, especially in places near the coast. The best period of the freestone effigy is said to have been from 1250 to 1360 (during which time there came an influence on sculpture from France, on the London carvers, and from Germany in the northern school). The appearance of the cushion under the head is supposed to mark the change in the treatment of the effigy

from the upright character to the recumbent attitude. The stone effigies of London were generally coated with fine plaster, and this, together with the whole monument, was painted in rich colour and relieved with gilding. The mail armour, at first painted on the effigy, was with other details afterwards impressed on the face of the plaster when soft, or was carved. It was not until about 1300 that individual representation appeared in the effigy, and portraiture in the modern sense was seldom attempted until later. It may be noted with reference to the design of the monument that from the twelfth to the fifteenth century the architectural and constructive motive is the key to all the finest work of that period.

The various crafts employed in building and embellishing the church were amongst the chief trades in the Middle Ages. Though marble is used in most of the great monuments, the constructional work and the leading features are chiefly in stone. The Eleanor crosses, chiefly of stone, which were put up wherever the coffin of the Queen rested, between Headingley and Westminster, are said to be from the designs of the Westminster masons, who carved the figures and decoration. When such refinement of masonry as is seen in Edward II.'s tomb at Gloucester was undertaken, stone was naturally chosen. Wherever there was a large supply of good stone a school of masons and carvers generally sprang up, although the trade was not confined to the quarries, blocks of stone being sent by road and water to all parts.

As early as the twelfth century alabaster was used for architectural works, as may be seen in the Norman doorway on the west front of Tutbury Church, Derbyshire. The best alabaster came from Chellaston, Derbyshire, though Nottingham, not far off, is said to have been the headquarters of the carvers. London, too, was a great centre of the alabaster trade. The facility with which it could be carved and coloured for monumental purposes and for architectural furnishing naturally led to its extensive use, but the chief part of the trade was in the effigy and tomb.

Oak in the Early and Middle Ages was extensively used for constructional and decorative works, particularly in districts remote from stone quarries, and altar tombs with their effigies and canopies were often made in oak, painted in colours, gilded, or enamelled. Wood effigies, chiefly in oak, have been used, together with freestone, marble, and metal. In some places wood came more readily into use where good timber was obtained in abundance and skilled workmen were available. Although there are about ninety effigies existing, twenty-four of these being of women, and the rest nearly all in military attire, numbers have been destroyed. It is said that the Black Death killed off most of the carvers of effigies, and certainly not many in wood were made after 1350 until the sixteenth century, when the use of wood was for a time revived. Many of them were painted or cased in metal. Some of the earliest are those of Sir Hugh Bardolfe (d. 1204), in Barham Church, Norfolk; the Duke of Normandy, in Gloucester Cathedral, carved about 1280; Sir John de Pitchford (d. 1280), in Pitchford Church, Shropshire. The beautiful arcaded tomb of the Earl of Salisbury (d. 1227), son of Henry II., in Salisbury Cathedral, is in oak, but the effigy in stone; the effigy and tomb were painted in rich colours throughout and gilded. The tomb of William de Valence (d. 1296), in Westminster Abbey, had a life-size wood effigy covered with plates of enamelled copper, resting on an arcaded table tomb of wood, with enamelled backgrounds and raised figures; the work is said to be from Limoges, once famous for its enamel industry. William de Valence was half-brother of Henry III. and father of Aymer de Valence, whose monument is in the Sanctuary. The wood effigy of Henry V. (d. 1422), which rests under his magnificent chantry at Westminster, was probably covered with the same kind of enamelled plates, but the head was of silver. The finest instance of a wood canopy is that above the tomb of Archbishop Kemp (d. 1454), in Canterbury Cathedral.

The effigy, as well as numerous and important accessories of the monument, was sometimes made in metal, chiefly bronze. It has been said that, as regards effigies in metal, perhaps no church can show a more complete and beautiful series than our own Westminster Abbey, the earliest being those representing Henry III. (d. 1272) and Queen Eleanor (d. 1291). The artist was one William Torel. From

original accounts we learn that he was a goldsmith, that he worked in the King's palace, and that the casting took place in the churchyard adjoining the Abbey. The next in the series is the effigy of Edward III.; here the work, although the face is apparently a cast from life, is much coarser. Then follow the figures of Richard II. and his Queen; these are more carefully treated. The last of the series are the Countess of Richmond, and Henry VII. and his Queen; they are surpassingly well done, although the draperies are not so elegantly disposed as in Torel's work. The little figures of saints at the sides of the royal tomb deserve particular attention.* Other bronze effigies are those of the Black Prince at Canterbury and the Earl of Warwick in Warwick Church. In a few cases silver was employed. Henry III. is said to have caused a figure of his daughter Catherine (d. 1257) to be made in silver, and in the same reign a silver image of the Earl of Gloucester was placed on his tomb in Tewkesbury Abbey.

An interesting feature in connection with the table tomb is the metal hearse, which served the double purpose of protecting the effigy and providing standards for the numerous candles which were lighted on the occasion of various festivals. Instances are the one in iron round the tomb of Lord Marmion in Tanfield Church, Yorkshire, and the brass hearse over the effigy of the Earl of Warwick at Warwick. A fine iron screen surrounds the tomb of the Earl of Arundel, in Arundel Church, with embattled rails and ten buttressed standards, with moulded bases, and caps with prickets for candles. There is the matchless and well-known iron grille over the tomb of Queen Eleanor at Westminster. There are good iron screens round the tomb of the Black Prince and others in Trinity Chapel, Canterbury. In the Choir of Salisbury Cathedral is the chantry chapel of Lord Hungerford (d. 1429), the sides of which consist of a lofty iron framework or screen with a moulded cornice, furnished with shields at intervals and surmounted by an ornamental cresting, and divided into three sections by standards, between which it is filled in with upright bars, set anglewise; the whole, including the flat ceiling, was painted and decorated.

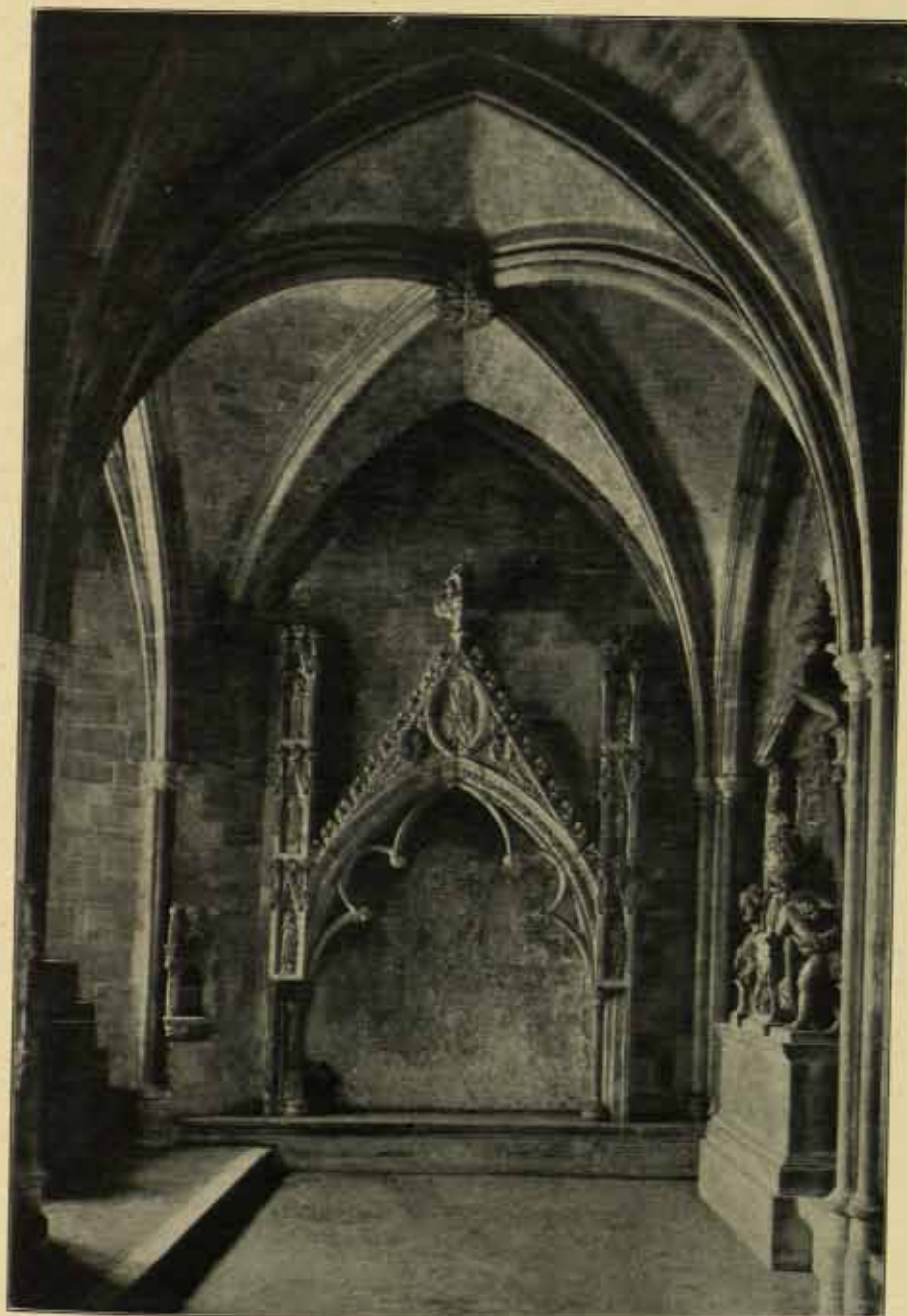
Cast-iron slabs were used for memorials as early as 1500, both in the church and churchyard, near the old ironwork centres. At Burwash, in Sussex, is a long cast-iron slab said to be of the latter part of the fourteenth century, with a small cross on the upper part, and at its base "Orate pro anima."

Arms and heraldry formed a conspicuous feature on the monument, and came into use here about the middle of the twelfth century. It had its origin in the necessity for identifying the various combatants in times of war and tournaments, especially when men were covered with armour. Crests and devices were shown on coins from an early period, and on seals from the twelfth century onwards, for individuals and for both religious and civil corporations. One of the first shields bearing arms is on the seal of Richard I. (1189), showing the lion rampant. Early in the reign of King John the parted shield first appears, followed by quarterings, which is said to have spread through the example set by Queen Eleanor on her marriage to Edward I. in 1254. But arms are not much in evidence here until the end of the thirteenth century. The Crusades, too, brought the custom into prominence. The insignia worn on the coat over the armour were also displayed on shield and ensign, floating pennon and banner. Towards the end of the fourteenth century bishops exhibited the arms of the see with their own. In the fifteenth century painted arms decorated all the important possessions of the holder, and throughout the Middle Ages down to modern times heraldry was a marked feature of the monument.

The heraldic tabard in the first quarter of the fifteenth century was worn over the steel armour, and women as well as men are sometimes shown on effigies with the heraldic cloak or mantle. The evidence afforded by heraldry has often proved valuable in determining the period or the identity of monuments. Supporters to the shield appear about the middle of the fourteenth century. Badges were used from early times. Orders, collars, and chains are shown on many effigies. The Order of the Garter is said to have been founded by Edward III. about 1346; the Collar of S.S., founded by Henry IV. long before his accession in 1399, and shown on numerous effigies, was the cognizance of the

* Sir G. G. Scott, *Gleanings from Westminster Abbey*.

House of Lancaster. The Collar of Suns and Roses was adopted by the House of York. The Collar of the Thistle was founded by James II. in 1687. Other private devices were used at times. A well-known foreign Order is that of the Golden Fleece, founded by Philip of Burgundy in 1429, and that of St. Michael, founded by Louis of France in 1469.



Exeter Cathedral, St. James' Chapel; Tomb of Bishop Leofric (c. 1280).

In the twelfth century the first effigies of knights appear clad throughout in mail armour; in succeeding ages, slowly and naturally, the armour changed with the changing weapons of war, and the sculptured effigy shows this in a marked way, making a continuous historical record. A very brief

summary of such a subject is never entirely satisfactory, but armour has been roughly classified as follows: Twelfth century, ring and mail, unmixed with plate; thirteenth century, mixed mail and plate, the mail predominating; fourteenth century, mixed mail and plate, the plate predominating; fifteenth century, era of complete plate. From the end of the fifteenth century armour became more decorative than useful, but it continued to be shown on monuments down to the seventeenth century.

Civilian costume presents fewer debatable points than armour, but there is no time on the present occasion to consider it. When we come to ladies' costume, especially in the later centuries under consideration, the changes may not be so constant and bewildering as they are to-day, but in any case the various fashions are faithfully shown on the effigy and the weepers, and will repay careful study. Simplicity is ever a ruling feature in all that is best.

Small tombs are an interesting section of monumental art. Some instances are those of three children of Henry III. and four children of Edward I., and those of William of Windsor and Blanche de la Tour, in Westminster Abbey, and William of Hatfield in York Minster. In such cases the figures, although of children, are generally shown in the armour or costume of men or women of the time. In Elizabeth's reign rows of kneeling children often appear on the tomb of their parents. The small effigy of a boy bishop at Salisbury of the thirteenth century illustrates a well-known custom in mediæval times.

Semi-effigial monuments, of which there are a considerable number all over the country, chiefly of the thirteenth and fourteenth centuries, should be noticed. The figure of the semi-effigy on slabs and brasses is generally associated with a cross. The idea of representing only a portion of the figure may have been a passing phase in monumental art, or may have been due to a desire to provide a constant remembrance of the deceased on the tomb in which the body lay. Some carry a double semi-effigy. Many are placed within mural arches; they are also shown on numerous brasses. Many were done about the period of the Black Death, some of a rude character, like the work of unskilled carvers. Some of the most noted examples are Princess Joanna (d. 1240), wife of Llewellyn, Prince of Wales, at Margem; Bishop Ethelmar de Valence in Winchester Cathedral (1260), Sir William de Staunton (d. 1326) at Staunton, Nottinghamshire, and Sir John Daubygne (d. 1364) at Norton Brize, Oxfordshire.

Perhaps the greatest difference between mediæval and modern life may be seen in the almost entire absence in the present day of colour, in our buildings, accessories, and costume—unless you call black a colour; one would have thought that if the Academy were too shy to give a lead in the matter of evening dress the Institute might in mercy take pity on mankind. Throughout the Middle Ages, and until the Reformation, the colour scheme pervaded everything; a legacy coming down from very early days, it had its origin in the gorgeous East. Our churches were resplendent with all the incidents of sacred subjects painted on walls and vaulted ceiling, together with a fine scheme of harmonious decoration. The whole life and surroundings of the people were steeped in rich colour, and the monuments in the churches shared this to the full.

The tombs of the saints and of the great nobles made an important feature in the church, and upon them was expended some of the choicest work in design and decoration; from base to pinnacle every part of the tomb was painted in glowing hues and gilded. Jewels often decorated the crowns, mitres, pastoral crooks, belts, sword-hilts, and scabbards, as well as the dress. Beautiful patterns in endless designs ran along borders and bands, square or diagonal diapering covered the broad surfaces, gilding and burnished gold were freely used on the salient points and mouldings. Quatrefoil and trefoil ornament was frequently employed, and dark-painted tracery in the sunk panels and other parts, as well as glass mosaic. The backs of some niches have patterns in gold, like those on the old velvets and brocades; the vaulting of the canopies and the ceilings of the wood testers often had painted subjects on a gold or blue ground studded with stars; sometimes they were decorated with delicate scrolls of vine or other leafage. Some monuments had more gold than colour. Enamelled or painted heraldic shields were used on the table tombs as well as on the cornice and other parts of the monument.

In some churches may be seen an arched recess, more or less decorated, in which is generally a table tomb where the Easter Sepulchre was regularly set up. In the Middle Ages there was often a provision made in wills for the tomb to be used as an Easter Sepulchre.

TWELFTH-CENTURY MONUMENTS.

Although before the Norman Conquest many monuments existed, and some remain, comparatively little is known of them. Where ornament appears it is mostly of Scandinavian origin. In Bakewell Church is a small Anglo-Saxon coped tomb decorated with rude carving and edged with a ropelike moulding; others of a different kind, but about the same age, exist at Kirby, Ingleby, and Arncliffe, Yorkshire, and at Wirksworth, Derbyshire. It may be noted that the motive of decorative art in carving and painting is often to be found in the old illuminated manuscripts which exhibit a profusion of ornament of Norse character.

The Christian monument begins with the stone coffin which was hewn out of a solid block and was buried underground; later the stone coffin was interred, with the lid showing on the floor of the church; then the whole appears with the lid and sides, sometimes decorated with ornament and forming a "raised tomb." Some of the eleventh century have a rude arcading round the sides. Monumental slabs of the same period were discovered at Cambridge Castle ornamented with circular crosses and interlacing work. Some are coped longitudinally and others transversely as well as longitudinally forming a cross, and are generally shown tapering in width to the feet. At first furnished with a simple cross, they afterwards appear with floriated crosses and borders of enrichment; some are covered with carved foliage, having birds and animals interwoven. Then the crude effigy appears on the slab. The raised tomb sometimes takes the form of a sarcophagus, similar to that attributed to Archbishop Theobald (c. 1160) at Canterbury; afterwards the raised or table tomb has its sides divided into arcades, niches, or panels, often containing statuettes, and its slab generally having an effigy or a brass.

The sculptured figure is shown on the monument about the early part of the twelfth century, first in its simplest form with little relief, and sometimes surrounded by carved leafage and scroll work, similar to that of Bishop Roger (d. 1139) at Salisbury; then the clear figure appears (like that of Abbot Laurence in the cloisters at Westminster). Gradually the effigy developed from the low relief sculpture to that of the complete figure, with rounded limbs and all the details of dress or armour. Some of the early effigies are of the long conventional type like the sculptured figures on the west fronts of churches. The effigies of the early abbots at Peterborough show the figure in partial relief. The first effigies of bishops are bareheaded, then a low mitre appears, and afterwards this increases in height and is richly jewelled. The bishop's staff at first has a simple crook, generally held in the left hand, turning outwards, it is said, to indicate external jurisdiction, while the abbot's crook turns inwards, showing his domestic rule.

The Crusades mark an important era in the history of the monument. At the end of the twelfth century effigies in armour appear on raised slabs, like those in the Temple Church; some are in partial relief, but in those of later knights the limbs stand out and the whole of the figure is undercut. Most of the effigies abroad are shown with closed eyes, but English effigies generally have the eyes open.

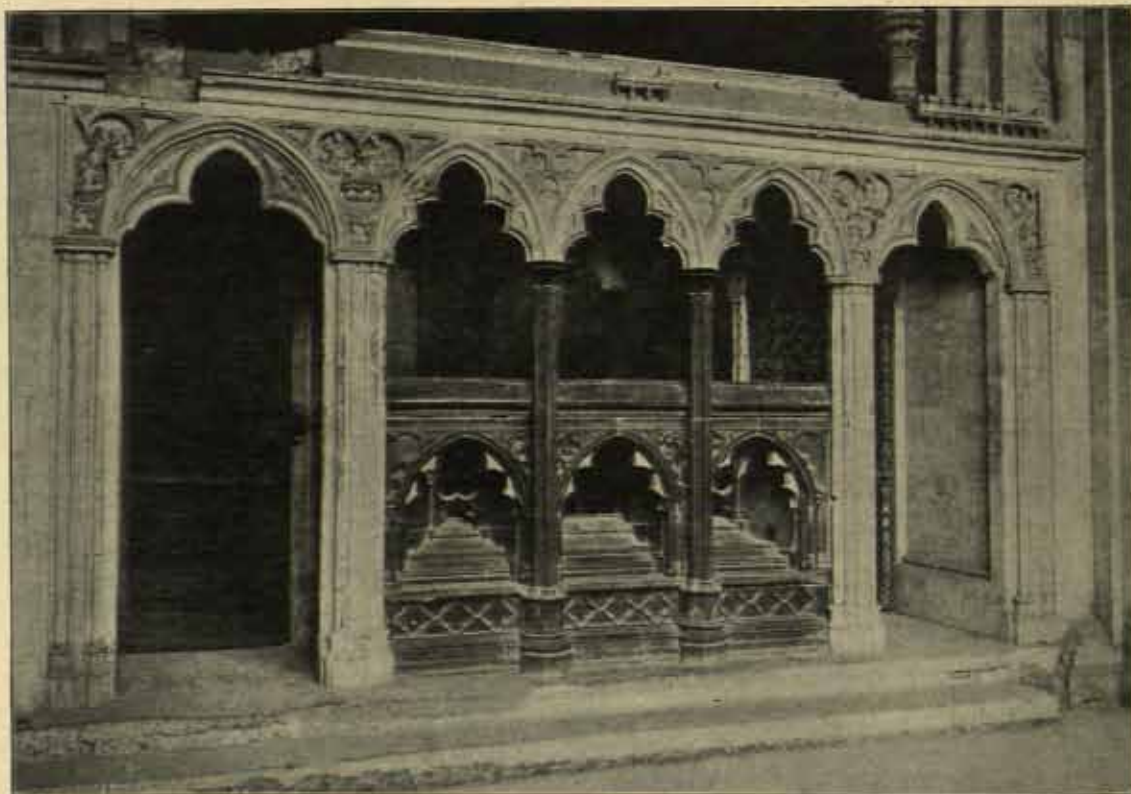
At the end of the twelfth century a marked feature is seen in the figures of some knights, who are shown drawing or sheathing the sword.

THIRTEENTH-CENTURY MONUMENTS.

The monuments of this as of the previous century are chiefly those of royal personages, great ecclesiastics, the nobility, and men in armour; effigies of ladies, of which there are comparatively few, appear in the simple and beautiful costume of the time.

In the early part of the century the effigies of ecclesiastics retain the stiff and formal character of former years. Slowly they developed to that of bolder relief and greater refinement; the effigies of bishops are shown with the head surrounded with a simple pediment-shaped canopy with a trefoil arch;

this head canopy grew into an elaborate feature, supported by delicate shafts on each side, carried down to the foot of the slab, giving the appearance of a figure enshrined in a canopied niche. Some are enriched with foliage overlapping the shafts at intervals; others have a series of small niches at the sides, each containing a figure. Another form of monument is seen in the tomb of Bishop Gilbert de Glanville in Rochester Cathedral, of the sarcophagus type, and that of Archbishop Seval de Bovill in York Minster, which has a low open trefoiled arcading, roofed with a coffin-shaped slab. The effigies of ladies in long flowing robes are generally shown with the hands in prayer, the head on a cushion, with an angel at each side, and the feet on dogs. Some examples are the effigy in the Lady Chapel in Worcester Cathedral, Lady Berkeley in Bristol Cathedral, an Abbess in Romsey Church, Lady FitzAlan in Chichester Cathedral, Aveline Countess of Lancaster and Queen Eleanor in Westminster Abbey.



Canterbury: Tomb of Archbishop Meopham (1333).

Photo: Charlton, Canterbury.

Fine effigies of the nobility clad in armour which exist vary considerably during this period. Some of the earliest are the Earl of Pembroke in the Temple Church, the Earl of Oxford in Hatfield Church, Essex, and the Earl of Salisbury in Salisbury Cathedral. Many form the cover of the stone coffin, others are placed on a table tomb decorated round the sides with simple arches or with panels containing a quatrefoil in each. The plain-shafted arcading round the tomb had been in use some time when small figures called weepers were introduced in canopied niches, representing members of the family; valuable in the first stages as examples of beautiful sculpture, they are also an excellent record of costume in each period. A great feature towards the end of the century is the canopy over-arching the table tomb with a straight-sided pediment, decorated with crockets and finial and flanked by buttresses like those on the north side of the sanctuary at Westminster. Some form part of the tombs which are recessed in the wall of the church, as that of Bishop Leofric at Exeter, and that of Archbishop Peckham at Canterbury. Another type of monument had its origin in the rich hearse which stood in the church

over the coffin at burial, as the monument of Archbishop Gray in York Minster, and that of Bishop Bridport at Salisbury. Many decorated slabs exist of this century, as well as coped tombs with crosses in relief, and recesses were often built for them. Towards the end of the century some table tombs have armorial bearings on shields in the arcading round the sides, like those on Queen Eleanor's tomb. With reference to the subject of portraiture, although in the case of many effigies a purely conventional character was adopted, others show marked features which indicate an attempt at a likeness. By the end of the fourteenth century portraiture had made considerable progress, and in the fifteenth century it became an established feature, although by no means common; but from the sixteenth century the individual features and expression were generally shown. As, however, with the shop-made Purbeck effigies, so it was with the early conventional alabaster figures, as well as the monumental brasses: great numbers were made depicting the same type, so that portraiture was impossible in most cases.

FOURTEENTH-CENTURY MONUMENTS.

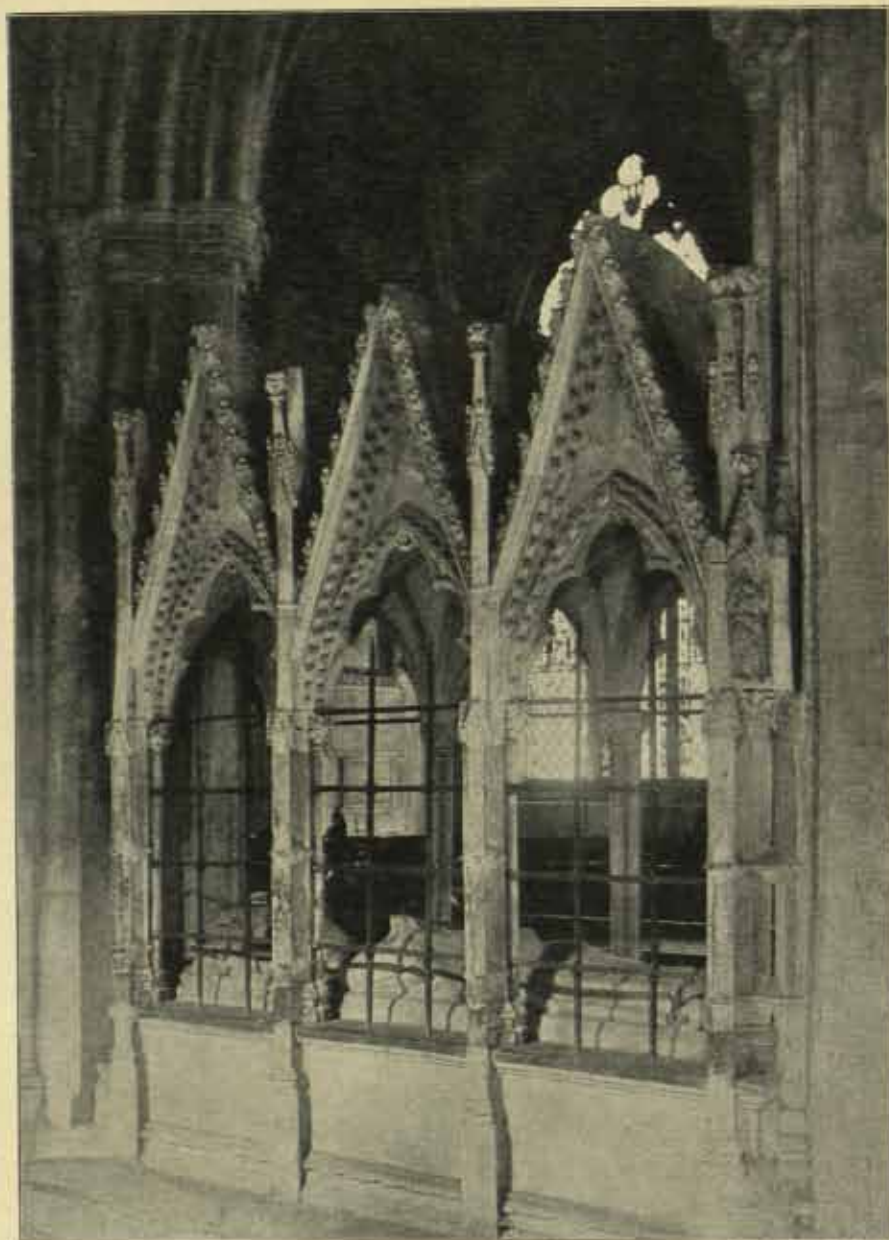
As a whole, monuments in this century show great variety of design and freedom in treatment, with an ever-increasing richness and profusion of carved ornament and foliage, evidently based upon a close study of nature. That beautiful feature the arched canopy over the tomb in its early stages had the equilateral arch, with circular cusplings, plain spandrels, and broadly-spaced crockets, like that over Archbishop Grenefeld's tomb in York Minster; this grew into the ogee arch with double cusplings, carved spandrels, close-set crockets, rich heraldic display, and profuse decoration, as seen on the monument of Lady Percy in Beverley Minster. The sides of the table tomb developed an increased number of niches, with elaborate tracery heads or richly carved and crocketed canopies. The tomb of the Earl of Warwick, in St. Mary's, Warwick, has an arcade of thirty-six moulded arches with cusped heads, containing as many statuettes in bronze. The great canopy may cover either a slab or a table tomb, and the monument often rests beneath the pier arches of the chancel, or is recessed in the wall; some with moulded arch, crocketed label, and flanking buttresses, others with a triple-arched and groined canopy resting on piers.

A great feature of this century is the table tomb with a lofty spiral canopy, like those of Edward II. at Gloucester and Sir Hugh Despencer at Tewkesbury. Coped and flat tombs as well as incised slabs showing many forms of ornamental crosses continued in use, and various devices were employed showing the rank or calling of the deceased.

The Purbeck effigy went out of use at the beginning of the fourteenth century, and the oak figure came in for a time, and then the alabaster effigy, which remained for a long period, together with the stone effigy. About the middle of the century, through the increasing trade and wealth of the country, the merchant came into prominence and had his tomb, like that to William Delapole in Trinity Church, Hull, first mayor of that town. Early in the century the engraved figure on plates of brass of Flemish origin appeared, competing with the carved and painted effigy, but all continued in use together. Wall tablets, comparatively rare in mediæval times, have an example in that of Godfrey Foljambe in Bakewell Church. About the middle of the century monuments appear showing in the canopy of the recessed tombs the horizontal lines of string and moulded cornice, crowned with carved leafage; about the same time the piers of the triple-arched canopy were discarded, thus forming a suspended canopy; both features are seen in the tomb of Prior Rahere in St. Bartholomew's Church.

With reference to the fourteenth-century monuments it has been truly said, "One is struck with the fine sense they show of the right decorative use of all sorts of constructional features, such as bases, shafts, arches, buttresses, pinnacles, vaults, etc.; the men who made the monuments knew all about stonework from the building standpoint, but they were essentially artists in carving and sculpture, and they handled the accepted forms of stonework with wonderful felicity in adapting them to decorative uses. There are variations in scale, in the relative proportions of parts, in contours of mouldings,

and the values given to ornaments, that show a full appreciation of the difference between features used constructionally, as elements in architectural design, and those features usual in the building up of purely decorative work. The Winchelsea tombs are a good illustration of this. One has heard much scornful reference to the use of buttresses and arches and weatherings in decorative work, but so long



Tomb of Prior Sutton (d. 1314), Oxford Cathedral.

Photo: Taunt's, Oxford.

as the nature of the material is respected there is a perfectly proper use of such things in decoration. There is much work in wood, such as the Winchester stalls, in which the nature of the material is ignored, and in which, therefore, the design is open to much criticism, but there is no such wrong use in these fourteenth-century monuments. The power of design, the capacity for sheer invention, shown in these works is enormous."

FIFTEENTH-CENTURY AND LATE-GOTHIC WORK.

The fifteenth century is notable for the number, richness, and great variety of its monuments, table tombs, canopied recesses, engraved brasses, marble slabs, and chantry chapels. The table tomb generally had its painted stone or alabaster effigy; the sides of the tomb are decorated with cusped and crocketed arches, or with small canopied niches, with and without statuettes, or heraldic shields, or are filled with cusped quatrefoils. Sometimes the head of the effigy is surrounded with a rich canopy connected with a series of niches, one above the other, on each side of the figure, as on the magnificent tomb of Henry IV. in Canterbury Cathedral. Judges are shown in their robes and merchants in their long coats, the effigy of the wife is shown by the side of the husband, the sculptured figure of a skeleton in a recess is often placed under the real effigy. Inscriptions, formerly in either French or Latin, were often done in English black-letter.

The triple-arch canopied recessed tomb, with a bold cornice, is a common form of monument in this century. The development of the rich tabernacle work in the canopy over the table tomb may be seen in the monument of Archbishop Bowet, in York Minster, and in Cardinal Beaufort's chantry chapel in Winchester Cathedral.

The single-arched canopy of ogee form, with crockets and finial, and flanked by buttresses, continued in use until about the middle of this century, as well as that surmounted by a bold cornice with panels of tracery underneath it. The flat-painted canopy in wood, with decorated cornice, suspended arches, and ceiling furnished with a sacred subject, is not uncommon during this period.

The alabaster effigy much in evidence throughout this time shows with minute care all the details of dress and armour. Some of the great monuments towards the end of the century have over the canopy arches a screenwork of open lights with cusped heads, or rich, open tracery crowned with a decorated cornice.

A special feature in the development is the Chantry Chapels which were built in such large numbers during this century. It may be noted that they are unknown outside of England. The chantry chapel originated in the custom of giving or bequeathing money for the celebration of masses at his tomb for the repose of the soul of the founder, and his family, to whom the chapel belonged. Special chapels were built or arranged for this purpose; usually they are found in cathedrals and parish churches separated from the body of the church by stone or wood screens; others were often built out between buttresses, or in some cases formed a great building, as in the case of Henry VII.'s Chapel at Westminster. A fine series of chantry chapels may be seen at Winchester, Tewkesbury, Wells, and St. Albans. It should be remembered that, although tombs and chantries were often erected during life, many were built immediately after death, and others long afterwards.

Late Gothic work is well illustrated by the magnificent chantry chapel of Prince Arthur, eldest son of Henry VII., in Worcester Cathedral, showing the rich and redundant tracery of the windows and wall panelling, the small carved and canopied niches which cover the piers, and the heraldic shields and decoration which fill the panels and ornament the cornices. The elaboration of such features as the canopied niche, the multiple cusping of the arch, the intricacies of rib and fan vaulting, and the profuse carving was unlimited. Other instances are Bishop Alcock's chantry at Ely, that of Bishop Fox at Winchester, and the great chapel of Henry VII. at Westminster.

The final development of Gothic, as seen on the monument, resulted in a great display of mechanical skill; this appears in the repetition of familiar details and ornament, all wrought in harmony with the upright and horizontal lines of the panelled tracery and the canopied niche. Never had the carver such an opportunity as the chantry chapel and monument provided in filling the niches and furnishing the sculptured subjects and carved ornament for cornice and string. Equal scope was there for the painter in covering the free spaces of vault and panel and the whole monument with glowing colour.

THE RENAISSANCE.

By the middle of the sixteenth century Gothic art in England had reached its final development, when there gradually arose an entirely new outlook in architecture and the other arts. The movement known as the Renaissance began in Italy at the beginning of the fifteenth century with the revival of Classic art and literature, and it spread to other European countries. The great architectural works of the Roman period were numerous, and had to a certain extent been preserved, under the encouragement of the Popes. Italy awoke to the appreciation of these magnificent works, and the writings of Roman architects were studied. The first buildings of importance were carried out in Florence and Rome, chiefly by Brunelleschi, Bramante, Raphael, Michael Angelo, and Palladio, but it was not until



Photo: Fred. H. Crossley, Kentsford.

Elford, Staffordshire: Tomb of Sir Thomas and Lady Arderne (1400).

the early part of the sixteenth century that the influence was felt in England. In 1512 Torregiano, the famous Italian artist, was commissioned by Henry VIII. to design a monument to the Countess of Richmond, the mother of Henry VII. Before this Torregiano was engaged upon a monument to Doctor Young (now in the museum of the Record Office), with the object of satisfying Henry VIII. before being entrusted with the more important tomb of the Countess, and that of his father and mother. The terra-cotta tomb of Doctor Young, with its fine effigy, is entirely after the Italian manner. In that of the Countess of Richmond, though the sides of the tomb are Italian in their treatment, the canopy surrounding the head and its supports on each side of the figure are of Gothic design. Then followed the great monument to Henry VII. and his Queen by Torregiano, more strictly in the Italian style, but here the great bronze screen which protects the tomb is purely Gothic in character. Numbers of workmen were attracted to this country through the encouragement given them by Henry VIII.

and his Court. Lord Marney, of Layer Marney, Essex, and Sir Thomas Weston, of Sutton Place, Surrey, both employed Italians on decorative works in terra-cotta in connection with their mansions; but the use of this material did not last long. About 1525 a terra-cotta monument completely in the Italian style was erected to Lord Marney in Layer Marney Church. Various works, but to no great extent, were done chiefly in the south of England, showing Italian influence, and amongst them several monuments. After the death of Henry VIII. most of the Italian workmen left the country, and their special art soon died out.

Gradually, however, the transition from Gothic to Classic architecture proceeded. To meet the demands of the nobility for the new style which had "caught on," artists went to Italy and France to study. One of the most notable architects to further the development was Inigo Jones, who had worked in Italy. Another foreign influence had come into operation in the reign of Queen Elizabeth, when many refugees fled from the persecutions then rife in Holland. Amongst them were carvers and masons, who settled in this country.

The works of Palladio on architecture and German and Dutch books were brought over. Nicholas Stone (b. 1586), who, with his three sons, became somewhat famous as a sculptor, had worked in Holland with De Keyser, a noted carver, and he became acquainted with Jansen, the Flemish architect. Nicholas Stone, junior, also worked in Italy under Bernini, the great architect and sculptor.

Both the Dutch and Italian influence played a great part in the production of many monuments of Classic character in the seventeenth century. Eventually, chiefly through the works of Inigo Jones and those of Christopher Wren, John Webb, Hawkesmoor, Vanbrugh, and James Webb, Roman architecture was fully introduced into this country. Most of the architects designed sepulchral monuments or worked in conjunction with sculptors and monumental masons.

An enormous number of Classic monuments, of widely different merit, have been put up, all more or less interesting from the human as well as the architectural point of view.

"The monuments of the sixteenth and seventeenth centuries are, however, intensely interesting, as showing what use the craftsman of the period made of the new materials placed at his disposal. All through the Gothic times design had progressed evenly by very small steps, and the architecture was 'craftsmen's architecture.' Then came the time when, more or less suddenly, a number of new features, the correct use of which was only dimly realised, were placed in the mason's hands; but it was still the craftsman who had to provide the scheme of the thing, as well as to make it. We know about John Thorpe and others, but these monuments were not designed on paper in the way we practise now, and the method adopted was generally the same as in the Gothic times. The result is craftsman's Classic architecture, and some of it is design of a very high order, showing a very original and capable use of Classic features. And it probably exercised a considerable influence on later developments. For instance, the Wellington monument may possibly have been based on such examples as the Stamford or the Colyton monuments.

"The development of English Classic architecture in the hands of the workman is also specially interesting; the skill with which cornices are adapted for use in conjunction with gables, the treatment of Classic features in wood buildings, the resource with which architraves, pediments, plinths and rustications were used in even humble domestic work, all show the capability of the workman as a designer of refined, well-composed, and beautifully proportioned work. The lovely old gateway entrances, walls, terraces, market halls, the lanterns on houses and halls, the round-ended bay windows, and the beautiful ships of the time are illustrations; and even in Wren's churches the individual craftsman was a most important factor in the success of the interiors of them."

Monumental sculpture, however, became strangely altered from its original purpose, and fell from its high estate. In the best periods of Gothic art the carved effigy was treated conventionally, as an important accessory to the design of the monument. To attempt an actual copy in sculpture of a deceased person was never intended, the limitations in the use of all materials were freely

acknowledged, and the desire was to give an ideal representation of the figure, in an architectural setting, and as part of a monumental scheme. This simple and beautiful unity of purpose which distinguished the best work of the thirteenth century gradually gave place in monumental art to an expression of the pride of life, when the dignity and grandeur of office and position were ostentatiously displayed. Originally most of the sculptured effigies were represented peacefully lying with folded hands, as if in prayer; in later times the attitude materially changed, the figure is shown restlessly reclining with the head supported upon the right hand and arm, some, as if very uneasy, are sitting up wide awake; others eventually appear standing upright, gaily attired, and looking round on the world again.

With reference to the monuments which are being put up in our churches, more especially in Westminster Abbey and in the cathedrals, it is high time some strong protest were made. If a memorial must be erected inside the church a small tablet should, in most cases, answer the purpose. The churchyard, however, offers the least objectionable alternative; but here the monotonous display of hundreds of white crosses and tombstones all of the same type shows to what depths the public taste has sunk. In the case of Westminster Abbey, crowded as it is with tombs, it is a disgrace that more are being allowed to be put up. Various reasonable suggestions have been made to meet the requirements for monuments when of a national character, and these ought to receive the immediate attention of the responsible authorities. The old cathedrals and churches are too precious to be further invaded and disturbed by any modern productions. An exception, perhaps, may be claimed, with reluctance, for such a masterly work as the beautiful monument put up to the Duke of Wellington in St. Paul's Cathedral by Alfred Stevens, one of the greatest sculptors and painters of modern times. It worthily illustrates the best traditions of both Classic architecture and sculpture, and may be compared with the works of the most noted Italian artists.

In conclusion I have been reminded of Wordsworth's lines, notwithstanding all the beautiful things we have seen, that the best memorials of a good man or woman's life are the many unrecorded acts of kindness and of love.

DISCUSSION ON THE FOREGOING PAPER.

MR. ALFRED W. S. CROSS, M.A. Cantab., *Vice-President*, in the Chair.

MR. ARTHUR KEEN [F.]: It is a pleasure to me to be called upon to propose a vote of thanks to Mr. Williams for his admirable Paper. A few years ago he gave us at the Architectural Association an address on the subject of the late George Devey and his works, which was intensely interesting and valuable. And what he has given us this evening has been equally valuable. It is a most interesting subject, because the monuments shown us this evening in such variety illustrate the very cream of the work done in the times when they were produced, and they serve admirably to illustrate the almost infinite possibilities of design in Gothic detail. In all the examples shown us there is no conscious effort after originality; everything seems to proceed naturally from what has gone before, wrought by workmen capable of giving some variation and improvement. I will not prophesy that our next architectural revival will be Gothic, but it is certainly within the range of possibility, or even probability, because Gothic art is much more adaptable to the requirements of modern

work than the Classic which we are accustomed to at the present moment. Another thing which occurred to me as I watched the slides appear was that they served to refute what used to be almost a standing criticism of Gothic decorative detail, that it used the features of constructional work falsely in decoration. That criticism might be, to some extent, justified in the matter of woodwork, especially in woodwork of early periods. But in the examples shown us this evening we have seen constructional features used freely in almost every case—parapets, dripstones, buttresses, and pinnacles—where no added weight was required; and they have been introduced with such good judgment and right feeling that there has always been a difference made—a difference in proportion, a difference in the relative size of things, a difference in the ornamental treatment or in the grouping of them—just sufficient to express, and express most adequately, the fact that they are used purely in a decorative sense, not in a constructional manner. And I think many of the fine qualities of these monuments are due

particularly to the fact that the men who carried them out were also the men who designed them. This is an asset which is almost lost, unfortunately, at the present day. There are still one or two trades in which the combination exists, such as coach-building and the building of farm wagons, and particularly in the trade of the ship's carpenter. The wooden ships which were produced a century or two ago were always beautiful things; the ornamental detail was always good. Even at the present day any collier or coasting steamer presents the same quality as these monuments show in a finer way; you see pieces of carving on the terminals—scrolls and figureheads—which are roughly done, but apparently by the carpenter who has framed the ship's timbers. They are instinctively beautiful, and show the finest sense of right relationship between the ornament and the construction. The same thing has happened in the case of the masons who had the making up of these monuments. Although I am not an advocate of the idea that young architectural students should be taught to be craftsmen, yet much may be done by giving craftsmen instruction in architectural detail, and leaving them a much freer hand than we are accustomed to give them. Mr. Williams has shown us many instances of Mediaeval sculpture, and I could not help feeling with regard to them that their distinguishing characteristic, apart from the intrinsic beauty which they all possess, was their great truth. In every case they represent exactly what was current at the time. From that arises their intense value to us; and I could not help feeling what a pity it is that we have largely lost this fact of truth in sculpture at the present day. If we in a modern building want to represent the idea of commerce, instead of illustrating it by means of a dock labourer carrying a box of oranges on his back, or a Liverpool broker shouting on the Cotton Exchange, we show a female figure, beautifully draped, with an antique ship projecting from the side of her robe, which is altogether inadequate to give a proper impression of modern commerce. If we came back to the Mediaeval idea and frankly represented what is current in the present age, I think our work would be of much greater value in the future. It occurs to me to mention that a little time ago I saw a student's design for a bank. It was done by quite a young fellow, but all the ornamental carving work on the front was contrived out of such things as scales and money-bags, shovels, piles of money, and inkpots and other accessories of the banker's business. Though it was crudely done, I felt that he was on right and safe lines, and I wish it were possible to see much more of that kind of thing in our current architectural work. It would be a great incentive to design, and would render our work more interesting than it commonly is. Mr. Williams has given us full measure, and we are much indebted to him for the time and trouble he has spent in preparing this very admirable analysis of the work on English monuments.

Mr. LAWRENCE WEAVER, F.S.A. [*Hon. A.*]: I feel that many present must be as keenly interested as I am in the wall tablet of Sir Godfrey Foljambe at Bakewell Church. I take particular interest in it, because there are many thousands of monuments and memorials going to be put up in churches after this war. It is unlikely that there will be many tombs or cenotaphs in churches: in the first place because most of our fallen soldiers lie in unknown graves in Flanders; secondly, there is no room in our churches; and thirdly, because the majority of memorials will be simple. Probably most of the memorials will be wall tablets, and therefore I was glad Mr. Williams showed this example from Bakewell. He might have warned us that its inscription is modern. The memorial itself was moved at a restoration, and at that time this inscription was added. Its age, no doubt, deceives many people who see it, but it may be a copy of the original. The memorial is one of the earliest (1383) of its kind. Perhaps Mr. Williams can tell us whether there is anything earlier. There are some later ones, in the fifteenth century, such as the memorial to Thomas D'Arcy, in the D'Arcy chapel, Maldon, Essex. I think the Foljambe type may be a development from the semi-effigial tomb slab. What happened, I think, was something of this kind: a tomb-slab was moved to make room on the floor for some important person's table tomb, so they took up the semi-effigial slab and set it against a wall. That would give an idea for the development of the wall tablet. There are many other things on which I should like Mr. Williams's opinion. One is as to when the kneeling figure was first employed in English monuments. I have not found one in England in Mediaeval times, and I think they came from the region of Tournai. One ordinary memorial method in the Middle Ages was to put up some kind of devotional relief—a Coronation of the Blessed Virgin or a Crucifixion, merely with the name of the person commemorated written underneath. The next step was to add in the corner of this relief what in Italian reredos paintings we call the "donor" figure. Gradually, as the personal element grew stronger, the donor figure grew bigger, and the devotional subject became smaller, until finally it was omitted, and only the donor figure was left. There are many devotional memorials with kneeling figures. One of 1395, at Tournai, is the earliest I can find. It would be interesting to know why, seeing we had so many things from Tournai, particularly black marble fonts, we did not also borrow that form of memorial. It is a mystery why, until the nineteenth century, there is no such thing in England as a bronze tablet. They were very common in Germany from the sixteenth century onwards. Any volume of German parish histories will show delightful heraldic wall tablets in bronze. We cast many effigies in bronze, but never a wall tablet. I would make a faint protest against the idea that weepers on Mediaeval tombs represented only the family and relations of the dead. Seeing that many of these figures carry emblems which are clearly emblems

of the saints, they cannot always have a personal significance. I am afraid Mr. Williams is not very sympathetic with the later monuments, and regret his sketch was not continued to cover the memorials of the seventeenth and eighteenth centuries. Many are extraordinarily fine, and the study of their development has been neglected in a most unfortunate way. Another interesting line of research is to trace how far and how soon the Baroque movement influenced English memorials. As far as I know, the earliest frankly Baroque monument in this country is that of Lady Cheyne, in old Chelsea Church. It was by Paolo Bernini, son of the more famous Lorenzo, and was sent from Rome about 1671. The same idea is found in a tomb by Monnot, in Stamford Church, sent over from Rome in 1707. When the work of Roubillac, beginning in 1732, is reached, Baroque treatment is found to be fully established. But it is curious that it was so late in taking root in this country. It is worth noting that Lorenzo Bernini's first work (1612) was a wall tablet, exactly like an English Jacobean example. He went a good distance before he died. May I gently protest against the idea that standing figures in monuments are a base trick employed in the eighteenth century, and that they are not in accordance with primitive excellence. Some of the most exquisite memorials we know are Greek steles of the finest periods of Greek art. They show people standing, sitting, and talking as in life, as well as emblematic figures such as Eros and Thanatos with reversed torches. The Greeks were not ashamed to show their friends as they knew them and loved them, and if it is not done with undue vigour and naturalism, I see no objection to the treatment. I have great pleasure in seconding the vote of thanks to Mr. Williams for his contribution to a subject which must be in all our minds at this time.

MR. ARTHUR T. BOLTON [F.], F.S.A. : We shall agree that we have had a most interesting subject brought before us to-night. If it reminds us at all of the long history that stretches behind these monuments it cannot fail to be of great service. I remember meeting an Italian architect at Viterbo, who, in talking about a monument in his cathedral, remarked with great pride on the fact that it was by a sculptor who he knew had also done one of the royal monuments of that same period and style in Westminster Abbey. This link between the monuments of Italy and those of England has been a characteristic all through our history. I am afraid that I do not agree with the lecturer's censure of standing monuments, because I cannot reconcile it with that very interesting type of monument in which you have standing or kneeling figures supporting the slab over the figure of the deceased. Either they are squires or knights companions, or else, perhaps, they may be those interesting figures in which the person represented is shrouded in the hood of some confraternity. You have probably witnessed these funeral processions in Italy, where they are still kept up even at the present

day. The members, who belong to different orders of society, taking part in these funerals all wear identical robes with hoods shrouding their faces, by means of which they all stand upon the same footing as persons interested in the funeral of a deceased member. Such a record in stone is of the greatest interest. Mr. Williams, I noticed, made the customary remarks about the monuments in the older churches, but in the course of some reading in which I have of late been taken up, I came across a very applicable passage in the life-story of a very famous Irishman. He writes to an old schoolfellow his earliest impressions of his first visit to London. He had been to visit Westminster Abbey, and after mentioning "the awe which pervaded my mind, which was indescribable, and the very silence, which of itself was sacred," he goes on to refer to the monuments as follows : "Some would imagine that all these monuments were so many monuments of folly ; I do not think so ; what useful lessons of morality and sound philosophy do they not exhibit ! When the high-born beauty surveys her face in the polished parian, though dumb the marble, yet it tells her that it was placed to guard the remains of as fine a form, and as fair a face as her own. They show, besides, how anxious we are to extend our loves and friendships beyond the grave, and to snatch as much as we can from oblivion :—such is our natural love of immortality ; but it is here that letters obtain the noblest triumphs ; it is here that the swarthy daughters of Cadmus may hang their trophies on high ; for when all the pride of chisel and the pomp of heraldry yield to the silent touches of time, a single line, a half-worn-out inscription, remain faithful to their trust." These are the impressions of Edmund Burke on visiting the Abbey. You will notice that he brings in an interesting point, and that is the value of the epitaphs, which has not been touched on, and this interest in the inscriptions must be particularly in those of the later periods. I confess, of course, that the first impression one has, when starting out to study architecture, is that the monuments are a great nuisance. I do think, however, that we soon pass beyond that first impression, because if the interior is worth anything at all, it rises of itself far above the minor features of such monuments ; we are no longer troubled by them. There is, too, this other point of view, the one which so impresses Edmund Burke, the historical standpoint. It is not too much to say that the narrow ideas of the last half century have done irremediable mischief, and that our churches have suffered enormously by the disturbance and destruction of their valuable monuments. I can think of many churches where all kind of expedients have been resorted to. I was told a story last summer how an ancestor's monument had been rescued from the crypt of St. Martin's-in-the-Fields and had been re-erected in the family church in Worcestershire. It was, I could see, a beautiful seventeenth or early eighteenth century monument. I think we must, as architects, take these things more seriously. We have no right to interfere with history

by conniving at the abolition of historical records in this way. Such tombs and monuments may not be, perhaps, enormously interesting to ourselves, but they may be of vital interest to our cousins across the seas, for whom we are in a manner trustees. The loss of such monuments has been allowed to go a great deal too far; and we must all hope that there will not be any more instances of such mistaken zeal for a single phase of our national history so deeply graven in eloquent masonry.

MR. J. WRIGHTSON BATESON [A.]: Mr. Williams has brought before us, as students and as architects, the lesson that we ought to do something with regard to these monuments, not only in the old churches by preserving them as much as possible, but also studying them as a guidance to building new churches. One grave fault with regard to monuments in churches is that very often a Classic design is put into a Gothic church, and that, it seems to me, is incongruous. If we would only study some of the examples which have been placed before us this evening, and when the time comes for us to design a church remember the lessons, I think we should have some useful groundwork on which to make a good design. One speaker mentioned the extent to which the workman was concerned with design. I think the present age is so different that we have not the time to do the work as it was formerly done. If conditions were such that we could sit down and spend time in the design, and be paid accordingly, we should be able to turn out as good work as the examples depicted on the screen.

MR. WILLIAMS, replying to some of the points raised in the discussion, said: I think the monument at Bakewell Church is one of the earliest in the way of a tablet. I did not refer to the Bishop de Valence's monument at Winchester as a tablet. It had been designed and intended as a slab, but in later years it was put on the wall. I cannot say when the kneeling figure came into English monumental art in the sense that has been referred to by one of the speakers. With regard to bronze tablets, it is a pity they have not been more used, although in recent years one does see more than formerly. With regard to the weepers, it is true that the figures placed on the sides of the table tomb are not all relations. For instance, on the tomb of the Earl of Arundel there are, I think, 28 figures, and they are all figures of monks; but often they were figures of relatives and friends. With regard to standing figures, I do not object to these; what one does object to is the gorgeous display which was evidently intended in many of the later monuments, and that display of arrogance which is extremely unbecoming in a monument. But where they can be shown with the sweetness and restraint which are seen in the early work, they are perfectly allowable. One speaker has said that we ought to rise above the feeling of disturbance occasioned by the number of monuments in our churches. Though I would not on any account advise the removal of old monuments, however late they may be in character, yet there is a

great difficulty in some churches, especially in Westminster Abbey, in seeing the interior of the building itself on account of the tremendous accumulation of sometimes very indifferent monuments in the building.

MR. J. D. CRACE, F.S.A. [*Hon. A.*], writes:

Having had the privilege of reading a proof of Mr. Williams's very able and comprehensive Paper, but being unable to attend at his own reading of it, may I offer one or two remarks on points arising from it.

Speaking of early crosses still existing, Mr. Williams says: "The precise origin of some crosses put up in these early times is a matter of debate; some belonging to the seventh and eighth centuries in the north and west of England are supposed to be of Coptic origin." I do not know to what authority he is indebted for this last strange suggestion. Why Coptic? But the notion that these early crosses were memorial monuments is, I think, now known to be an error. Their real purpose is very clearly stated by a writer of the eighth century. They were "*meeting places for worship*," substitutes for churches when churches were few.

The writer of the *Hodoeporicon* of St. Willibald (d. 785) took down from his own lips the aged pilgrim's description of his travels. In explanation of the incident of his being dedicated to God in infancy "by being laid at the foot of the cross," the writer says:

"For it is the custom of the Saxon race that on many of the estates of nobles and of good men they are wont to have, not a church, but the standard of the Holy Cross dedicated to our Lord, and revered with great honour, lifted up on high, &c., &c." (See *Palestine Pilgrims Text*, (Vol. III.)

Of examples of actual personal monuments, Mr. Williams adduces many of the first importance; but of those of the fifteenth century which are definitely portrait monuments he has, I think, omitted the finest of all as a work of art, that of the widowed Alice Duchess of Suffolk (d. 1475), daughter of Thomas Chaucer, and probably granddaughter of Geoffrey Chaucer, the poet. She is buried at Ewelme, Oxfordshire, in the church which she founded, and amidst the other benevolent institutions of her creation.

The delicacy and charm of the sculpture of the face and hands, the dignity of treatment of the robes, all indicate the work of an accomplished artist, quite beyond the level of the "monumental sculptor" of the time. Who was that artist?

Seeing how thoroughly Mr. Williams has dealt with a succession of periods, one is surprised to find him skipping the characteristic Elizabethan and Jacobean monuments, of which there are perhaps more examples than of any other, and more widely distributed. However, he has given us so much, and in so discriminating and concise a manner, that we can only be grateful to him for so compact a history of monumental art in England.

VITRUVIUS TRANSATLANTICUS.

By PAUL WATERHOUSE [F.].

FIVE-and-twenty years ago a writer contributed to the "Proceedings" of the Institute an article on Marini's edition of Vitruvius, in which he expressed the opinion that not many professional men vexed their souls in those days on the subject of the *scamilli impares*. Professor Aitchison in the following issue put the previous contributor to silence and to shame by remarking that the obvious reason for this peace of mind was that Wilkins and Penrose had cleared up for all time the mystery which for five centuries had beset these two magic words.

I have an interest in the incident, for I was the innocent contributor who expressed the original opinion, and to-day I find myself called upon to re-invest that Latin riddle with modern importance. The cause of the renewed interest is Mr. Goodyear, whose work, *Greek Refinements*, once more calls into prominence the Vitruvian enigma. It is true that it is more than two years since Mr. Goodyear's book came into print; but as, through a variety of causes, the work has never received notice in this Journal, I have thought that some mention of it in our publication might not be out of place even though, at the present time, the subject is one that is not likely to receive the attention which would fall to it in days of peace and leisure.

It will be recalled that this dubious expression, *scamilli impares*, occurs three times in the work of Vitruvius: twice in the third book, and once again in the fifth, the former being the passages which have provoked the greatest controversy. The importance of the obscure phrase is that it launched Wilkins, Pennethorne, and Penrose upon those important inquiries which led to the discovery of the now famous curves applied by the Greeks to certain nominally straight surfaces. The main passage, which has been rendered into English by Wilkins and Gwilt (two of the British translators of Vitruvius), as well as by others, runs in Latin as transcribed in the note below.* A translation which for various reasons I prefer to those just mentioned is worded thus:

"The stylobate, in order that it may have an increase (i.e. of height) in the centre, should be levelled by means of the *graduated gauges*, for if it is regulated (to a dead line) by the *level* it will appear to the eye hollowed, &c."

I am not claiming originality for the *sense* of this translation, for this is the sense which Mr. Goodyear adopts, and he in turn acknowledges his obligation to the French authority, Burnouf. But the point of this rendering is that it brings out the essential contrast which was obviously in the mind of Vitruvius, a contrast to which I will shortly refer.

Wilkins came to the conclusion that if the stylobate—or step on which the columns stand—was going to be out of level, something or other was obviously going *in consequence* to be out of uniformity—unequal, in fact, or as the Romans say, *impar*. What was this likely to be? Wilkins's conjecture was that the inequality would be in the fillet beneath the lower torus of the base.

Penrose, who, like Pennethorne, confirmed by his observations the immensely interesting fact that the stylobate actually was as Vitruvius said, raised or bellied towards the centre, discovered unparallel joints in certain blocks of the column itself (his example being primarily the Parthenon, which, having no bases, would not lend itself to Wilkins's theory), and from Penrose's day the unequal *scamillus* was supposed to be a block in the column. But the extraordinary feature about all these discoveries and explanations is that Vitruvius, if I (and many greater people) understand him aright, is describing by his *scamilli impares* not a *result* of the bellying of the stylobate, but merely a *means* of effecting this curvature. He says, if I read him correctly, "Don't do your job with the level; do it with the *scamilli*."

Wilkins, in fact, conjectured a device which may or may not have existed (I suspect it never did, except in the example he gives of St. Martin's Church). Penrose not merely conjectured, but dis-

* Stylobatam ita oportet exæquari, uti habeat per medium adjectionem per scamillos impares. Si enim ad libellam dirigetur, alveolatus oculo videbitur.

covered an actual and most ingenious adjustment; but both of these explanations are concerned with the *consequences* of the curved stylobate, not with the *means* for its construction.

Mr. Goodyear most commendably revives the memory of the Frenchman Emile Burnouf, whose contribution to the *Revue Générale de l'Architecture* in 1875 gives on the whole the most sensible interpretation of the *scamilli impares*, an interpretation which, without throwing any discredit upon the work of Penrose, accords quite faithfully with the text of Vitruvius. Penrose having discovered an irregular feature—viz., a block in the frustum of the column which was irregular or *impar*—concluded that this must be the *scamillus* of which Vitruvius wrote; but in all justice it must be acknowledged, even by those who, like myself, have subscribed to the Penrose theory, that Burnouf is almost certainly right. He points out that to make a delicate curve in an approximately horizontal feature you need only use a series of some sort of gauges of unequal but graduated height. These gauges are obviously what Vitruvius referred to when he used (if he did use) the word *scamilli*.

Controversy has been busy not only over the meaning of the word *scamilli*, but naturally also over the question whether *scamilli* is not a corrupt reading. Some manuscripts give *scabelli*. It is assumed that *scamillus*, like *scabellus*, is a diminutive of the word *scamnum*, a step or stool. But the word *scabellus*, as a matter of fact, does not exist. It is the neuter form, *scabellum* or *scabillum*, that we know (e.g., in the 110th Psalm as well as in more classic Latin). It has occurred to me to wonder whether *scamilli*, a legitimately formed diminutive from *scalmus* (a peg), may not after all be the lost word for which the ages have sought in vain!

But enough of this Vitruviology. Mr. Goodyear reminds us that Pennethorne recorded not merely vertical curvatures but also horizontal deflections; giving in particular details of the very remarkable temple court at Medinet Habou in Egypt. The curves in that court, which are meant chiefly to be viewed from the interior of the court, are convex thereto, and consequently produce to the spectator an effect exactly equivalent to a rising vertical curvature. (It is obvious, for example, that an eye regarding a cornice which is the same distance vertically and horizontally from that eye—viz., at an angle of 45 degrees—will obtain, as far as mere outline is concerned, the same effect from a horizontal convex curve as from a vertical curve rising in the centre.)

Other classic instances of such convex horizontal curvature are to be found in the flanks of the temple of Poseidon at Pæstum, where the curvature was discovered by Burekhardt previous to 1869, and in the well-known Maison Carrée at Nîmes, where they were observed and measured in 1891 by Mr. Goodyear himself.

Now we have all been inclined to accept very readily a general optic theory that large solids bounded in vision by long straight lines tend to look hollow; that to look hollow is æsthetically inadmissible; that the Greeks with their keen sense of beauty discovered this inadmissibility, and that they corrected it by artificial convexity. The words of Vitruvius and the foregoing examples bear this out very excellently, and if they were the only examples available all would be well with us and the Greeks and Vitruvius and the theory. But Mr. Goodyear has apparently upset the whole of this nice doctrine by finding out, and reminding us that others also have found out, the prevalence of concave curvatures as well.

Now what are we to make of this? Mr. Goodyear is very bold. He openly mocks at the "almost universal popular impression that the ancient curves were intended to correct optical effects of downward sagging"; he gently chastises Professor F. M. Simpson and Mr. Russell Sturgis for endorsing this "vulgar error," and, if he has a little more sympathy for Hoffer's theory, he still has to condemn it. Joseph Hoffer (who wrote in 1898) pointed out that as a matter of fact long straight horizontal lines bounding a solid are usually seen in perspective, and consequently appear as a curve drooping (if they are above the eye) towards the remoter end, though in draughtsman's perspective this curvilinear droop is represented by a straight line hastening downwards towards a vanishing point. This appeal to optic facts is very convincing, but it is at least difficult, I think, to adopt it in face of Vitruvius's very definite

statement that the stylobate is to have a central rise, because "if formed by the level it will appear hollowed" (*alveolatus*).

Of course, if one adopts the Hoffer view, it is possible to save the situation by alleging that Vitruvius in writing of the stylobate is speaking of a feature normally *below the eye* of the spectator, which will by the same action of perspective (optical, not draughtsman's, perspective) appear as a concave curve turning upward at its remoter end; yet one can only maintain this explanation of the meaning of Vitruvius by also maintaining, as Mr. Goodyear does, that Vitruvius "does not at all refer to the lines of the entablature." But as I read Vitruvius he does very particularly refer to the lines of the entablature also. Turn to the later passage in Book III., where Vitruvius comes back to the subject of the use of the *scamilli*, and what do we there find? (The passage I know is corrupt, for the main verb is missing, but the prose is good enough for the clerk-of-works-like style of our author.) This is my rendering: "The capitals of the columns being now completed (they are) fixed . . . *not by the level*, but by an equal measure, so that whatever increase may have been made in the stylobate may be responded to symmetrically by the upper members of the architrave." Here Vitruvius clearly associates the camber of the stylobate with an exactly equal camber in the entablature; and it is obvious that he conceives of the convexity of the cornice as associated with that curve of the stylobate for which he has definitely given an optic reason.

Mr. Goodyear himself makes out a good case for the suggestion that the Greeks were desirous neither of making a line which appears hollow appear by correction straight, nor of attempting to increase (optically) the perspective curve and so present an appearance of added length and size. Their object, he says, was temperamental expression, not optical correction. He may be right; but his exclusion of optical reasons involves the throwing overboard of Vitruvius and his explanation, and this is at least rather unfaithful to the man whose long-misunderstood remark first led to the discovery of the curves we now study with so much interest.

Oddly enough, Penrose, careful and mathematical student though he was, fell into a most remarkable conjecture. The pediment, as he observes, has a marked optical influence on the straight cornice which subtends the two sloping boundaries of the tympanum. He argued that the Greeks, noticing this, first gave an upward curve to this pedimental cornice, and then, finding it a success, applied the same device to the flanks. But, strangely enough, convex refinement in the cornice under the pediment is far from general. The evidence which Mr. Goodyear brings together as to concave curves shows this; and it is not a little remarkable that the concavity on one of the Parthenon fronts was recorded by Penrose himself.* The examples cited by Mr. Goodyear are the Parthenon, a Roman temple at Cori, the temple at Egesta, and the so-called temple of Poseidon at Paestum. In each of these there is, or appears to be, a horizontal concavity in the entablature of the pedimental ends of the structure, and in some at least of these examples these concavities of the ends are accompanied by convexities of the flanks.

How are these things to be accounted for? Mr. Goodyear shrinks again from giving an optic explanation to the concave refinements. If it be allowable to follow up the line of thought which seems to me suggested by his material, I would venture to put forward a suggestion.

One of the most usual aspects from which a temple of the Greek class is viewed is a slightly oblique frontal aspect in which the spectator stands just sufficiently to one side of the front to catch the flank in sharp perspective. I call this point A. The other most usual aspect is the central position in front of the entrance—the position, in fact, of an approaching worshipper. Let us call this point B. In most cases a visitor to the temple would stand both at A and B during his approach, and in the minutes during which he would be most ready to give heed to the building on entering or approaching he would see the fabric from both points of view in close succession.

* In Penrose's book the entablatures on both fronts of the Parthenon are measured and recorded as convex refinements (vertical). The concave (horizontal) curvature on these

same features serves to neutralise the convexities. Penrose knew of the concave refinement, but on consideration regarded it as accidental.

I suggest therefore with regard to the aspect A that the convex curvature is regulated and prompted not indeed (on the Hoffer theory) by the intention of increasing the effect of perspective, but because the cornice line of the flank is in that view seen in close relation and rivalry with the entasis of the columns, particularly with that of the nearer angle column, and that if it be not rendered somewhat convex by horizontal or vertical curvature its straight line will look hollow (*alveolatus*) in contrast with the column's entasis. (Mr. Goodyear's illustration (No. 26) of Pæstum will explain my point.) As to aspect B: the spectator, if he is standing close to the temple and looking up, will find that perspective is making the frontal cornice curve downwards right and left. Is it not at least possible that the central droop induced by the concave refinement is intended to counteract with Greek subtlety this trick of perspective? I know not; but it seems worth while to think this over.

I fear I have at present got no nearer than Mr. Goodyear to the rehabilitation of Vitruvius and his clearly given reason, unless, indeed, we may interpret Vitruvius a little further. Vitruvius, I am sure, though Mr. Goodyear appears not to agree, associates very closely the curvature of the stylobate with the curvature of the entablature. It is perhaps straining language to suggest that when he orders the stylobate to be curved "because if level it would appear hollow" he is really referring to the optical effects of the entablature; but we must remember that Vitruvius is describing a device already well known to his technical readers, and that the provision he makes for the "refinement" of the stylobate is part and parcel of the curvature to be given also to the horizontal features of the entire flank. And in view of this his words are accurately and literally true. For it is clear—is it not?—that if the whole epistylum and the rest of the entablature is curved the stylobate would by contrast appear hollow if not associated with the entablature in the same curvature.

The conclusion of the whole matter, according to Mr. Goodyear, is temperament. I don't think any of us can disagree. The only question is whether the use of such a word as "Temperament," to the exclusion, for example, of "Optics," really brings us nearer to the secrets we are seeking out. An appeal to "temperament," for instance, will not explain why columns should not be broader at the top than at the base, nor why entasis should not be concave instead of convex.

Mr. Goodyear has done a good work in collecting examples of the curvatures, in bringing together old discoveries and adding to them most valuable new ones—so good a work that when all our interest is aroused, when we have all the materials round us ready for a new study of an old problem, it is a little disappointing to be put off with "temperament." I should like to know *why* the Greeks, hating straight lines, made some concave and others convex; and, what is more, I should like to know Mr. Goodyear's opinion; for I am not prepared to think that the Greeks did not care one way or the other.

I must appear in what I have written above to be in some measure criticising Mr. Goodyear's conclusions; but I do so with great diffidence and with great respect, and in this connection I should like to make an acknowledgment. Some years ago Mr. Goodyear's pronouncements on refinements in Gothic work met in this country with a storm of criticism. He was assailed by those who considered, *a priori*, that his theories were impossible; by those who imagined that wherever there was irregularity in Gothic work decay was the explanation; by those who held the theory that the beauty of mediæval building owed its origin to a sort of devil-may-care *insouciance* on the part of the builders; and finally by a few—a very few—who endeavoured to meet his facts with facts. At that time he invited me—a sceptic but not an assailant—to visit him at his hotel and to see his photographs, and I most heartily admit that I was then brought to realise that he had veritably and by sound research opened the door to a world of new mystery of the real existence of which there could be no possible doubt. Naturally, in a search for these refinements the more ardent the searcher is the more often will he come upon examples which, though apparently intentional, are in reality accidental; but I for one am satisfied that Mr. Goodyear has brought the world proof of the employment from time to time by Gothic as well as Greek masons of intentional departures from vertical and horizontal normality.

I do not pretend in this review to have covered the ground of Mr. Goodyear's work. I have

purposely, the subject being a large one, confined myself to the topic which is the main theme of his main argument. It is enough here to state that the book contains records of other and highly interesting instances of spatial irregularities all of which go to prove not only the minute acumen of Greek thought in the elements of their majestic architecture, but also the reverent care with which, thanks to such instructors as Mr. Goodyear, those intricacies are studied in that New World of which the Greeks knew nothing.

There is nothing in the whole realm of art more amazing than America's homage to the classic age.



9 CONDUIT STREET, LONDON, W., 20th March 1915.

CHRONICLE.

The Architectural Association.

Members acquainted with the important work done by the Architectural Association in the training of young men for the profession of architecture will learn with regret that the Association is being badly hit by the war, suffering not only from the loss of subscriptions of members who have left their business for military service, but also from the very serious falling-off of students in the schools. Before the war broke out the new session promised to be one of exceptional success. Over seventy students had entered for the Day School, and the teaching staff had been engaged accordingly. Since the outbreak of war some fifty students of the Day School have joined the Army, and the evening students have drifted away altogether and the schools have had to be closed. At the present moment no fewer than 350 members of the Association are on war service, and although some of these have paid their subscriptions, it is not anticipated that the majority will be able to do so, and it is not proposed to press them for payment. Every possible economy is being effected, and the teaching staff have voluntarily accepted reduced salaries. It is expected that the deficit on the session will amount to £1,000, and it is feared that the same difficulties will have to be contended with in the coming session. The outlook seemed so gloomy that it was suggested that the schools should be closed. The Advisory Council, however, strongly deprecated such a course and urged the continuation of the usual activities.

Mr. Maurice Webb, President of the Association (who in the early days of the war joined the Royal Engineers as a private and has since obtained a com-

mission in that regiment), has addressed a letter to the President and Council of the Institute acquainting them with the position of affairs and appealing for help to tide the Association over their difficulties. "The encouragement always given to us by the Institute," wrote Mr. Webb, "leads us to hope that in the present circumstances of unusual difficulty they may see their way to help us. We, of course, require money; but, in addition, we hope that in any appeal we may decide to issue we may include an expression of encouragement from the Institute Council to continue the work we are doing, which we believe is of real use to the profession." Mr. Webb's appeal, which was strongly supported before the Council by Mr. Leonard Stokes, Past President of the A.A., Mr. H. Austen Hall, the Acting President, and others, received a very sympathetic hearing, and the matter was referred to the Finance and House Committee to consider and report upon the possibility of making a liberal donation.

The Committee have made a report stating that they felt bound to take into consideration the burden of debt which still weighs upon the Institute, and also the estimated deficit for the current year owing to the loss of subscriptions of the numerous members serving with the Forces. They express regret that the condition of the Institute finances prevents their recommending a larger grant than £250 in addition to the usual annual grant of £100.

Happily the Council have a voice in the disposal of funds held in trust for educational purposes which enables them to afford the Association further assistance. The accumulated balance of the Anderson-Webb Trust Fund amounts to £273, and the donors of the Fund, Sir Aston Webb and Mr. Macvicar Anderson, have asked the Council to sanction the payment to the Association of £250 out of this balance. In making the request they recall the purpose for which the Fund was instituted, and express their satisfaction that no better use could be made of the balance than to apply it in aid of the Association in this time of stress.

It is satisfactory to announce that the proposals received the sanction of the Council at their meeting last Monday. By their adoption the Association will benefit at once to the extent of £600—a sum which may not recoup them for all their losses, but will, at any rate, help to smooth away immediate difficulties.

Official Architecture.

The Manchester City Council at their meeting on the 3rd inst. resolved by a large majority that a special committee be appointed with instructions "to inquire exhaustively into the present methods adopted in connection with civic architectural matters, with a view to their possible improvement in efficiency and economy; to advise the Council with regard to the advantage or otherwise of inviting the services of firms of architects in private practice, thereby enabling the City Architect to devote himself to advisory and supervisory work in connection with plans, building operations, and so on; and to lay its views generally before the Council."

Mr. Councillor Ross Clyne, the mover of the resolution, asked why local architects who were ratepayers should be deprived from securing designs in competition. There was no reason why architects should not be asked to compete in the same way as builders were asked to tender. Architects would be willing to appear before the special committee and prove that, as a rule, the erections in Manchester were too costly, that there was a limitation of ideas, and a tendency to become stereotyped.

Mr. Alderman Abbott, speaking in support, said that the resolution was no reflection on the City Architect; it was just the opposite. It was to relieve him of the responsibility of having to build anything from a workshop or cottage to large institutions devoted to totally different objects. He could instance one or two buildings recently erected and devoted to certain purposes which were not merely inadequately planned, but from an external point of view were not of the character they should be in so fine a neighbourhood. They could not blame the City Architect. He had to turn from one simple duty to an elaborate and complex piece of architecture as requested. It was the duty, therefore, of the Council to give perfect freedom for the brains of the city in architecture to be at the disposal of the city or of any particular committee. Not only would it result in a beautiful city, but it would relieve the City Architect from his present responsibility, and enable him to superintend and carry out the ordinary work that fell within his scope.

Mr. Alderman Turnbull, late Deputy Chairman of the Sites and Buildings Committee of the Education Committee, stated that if they gave outside architects the opportunity of competing for the work they would only be doing what they were justified in doing, as the present system was not always satisfactory so far as cost was concerned. He was, he added, a very great advocate for municipal housing, and he had come to the conclusion that until they changed their system of preparing plans they would never obtain a satisfactory municipal housing scheme.

Mr. Councillor Todd expressed the opinion that competition for public buildings was desirable; one man's designs for all manner of buildings were not always perfect.

Mr. Councillor Johnson pointed out that the financial question had to be considered. Architects were paid by commission. Was the City Architect's establishment to be retained, and commission paid to those architects who, whether they had an idea of economy or not, would get commission on the cost of the building, and, therefore, would not be inclined to make it as low-priced as possible?

University of Liverpool: Chair of Civic Design.

The Council of the University invite applications for this Chair, which is associated with the School of Architecture.

1. The duties of the Professor will commence and the appointment date from 1st October 1915. The appointment will be for four years, the period during which the endowment of the Chair is secured.

2. The stipend of the Chair is fixed at £400 per annum. The Professor will be allowed, but not required, to become a contributor to the Superannuation scheme.

3. The Professor will be required to reside during the Autumn and Lent Terms of each session, from the beginning of October to about the end of March, with three weeks' vacation at Christmas. He will be responsible (a) for the conduct and direction of research into the problems connected with the design and development of towns; such research being held to include the production of drawings of schemes for the treatment of specific problems, as well as critical and historic surveys of existing work; (b) the publication of the results of this research; (c) the provision and supervision of instruction on the subjects of the Chair; (d) to take such part in the degree and other examinations of the University as the Council, on the recommendation of the Senate and the Faculty of Arts, may determine, and to hold or be responsible for such terminal examinations as the Faculty may approve.

4. A Lecturer, also holding a Research Fellowship, is associated with the work of the Department. There are several special lecturers taking single courses of lectures.

5. The Professor will be allowed, while in residence, to carry on the practice of his profession on conditions already determined by regulations. Such work, however, must be undertaken only to such an extent as shall not interfere with the duties of the Chair.

6. Candidates are expected to give a detailed statement of schemes already executed or projected by them, to accompany it with plans and drawings, and to supply details of published or written work.

7. Applications, together with the names of three persons to whom reference may be made, and twelve copies of not more than six testimonials, should be forwarded to the Registrar, Mr. Edward Carey, on or before 10th May 1915. Original documents should not be forwarded.

Trees in London Streets.

Professor J. B. Farmer, of the Imperial College of Science and Technology, reporting to the Kensington Council on tree-planting in London, states that the trees most suitable for planting in the streets are the Plane, the Tree of Heaven (*Ailanthus glandulosa*), the Jersey Elm and the Lombardy Poplar. Other varieties worth trying are the Lime (*Tilia euchlora*), the single-leaved Ash, Bolle's Poplar, and the pink hybrid Chestnut. The trees should be planted, as far as possible, at equal distances from one another. A suitable distance apart is 50-60 feet, but narrow pyramidal trees might be a little closer together. The trees in any one street or road should be of one species only, and as far as possible they should be kept even in size, and be shaped on a uniform scheme. The shape may be pyramidal or open, the latter being suitable for roads that are wide and especially when the houses are separated from the pavement by forecourts.

The improved condition of the London atmosphere within recent years (says the report) renders the experiment of varying the kinds of trees to be planted a hopeful one. Whilst it is recognised that the plane is certain to continue to be the most thriving tree, there is perhaps something to be said in favour of avoiding complete monotony by the introduction of other kinds of trees into the streets. The plane stands pruning and even the hardest cutting back better than almost any other tree, except perhaps the lime. It needs, however, attention to prevent its naturally vigorous development rendering it unsuitable for the area at its disposal. It also labours under the suspicion of causing injury to the respiratory organs of delicate people, owing to the hairs which are shed by the leaves as they reach maturity and still more to the stiff bristles that easily break off the ripe fruits and so get carried into the air. Professor Farmer, however, does not think the case against the tree, on this account, has been really proved, but mentions that it is a fact that in some foreign towns, particularly in Germany, it has fallen into disfavour.

As a general rule the streets most suitable for trees are those which run north and south. The trees on both sides of the road receive their due share of sunlight, and the houses on neither side are unfairly deprived of their light. In streets running east and west the trees are apt to become a nuisance to the people who live on the north-facing side of the road.

OBITUARY.

The late Walter Crane, R.W.S. [*Hon. A.*].

Mr. Walter Crane, whose death occurred on the 14th March, was elected Hon. Associate of the Institute three years ago, but he had been for many years previously a familiar figure at the Institute Meetings when questions which specially interested him were under discussion. Born at Liverpool in August 1845, the son of Mr. Thomas Crane, artist, of Chester, he was educated privately, and was apprenticed to W. J. Linton, the wood engraver. In 1862, at the age of sixteen, he exhibited his first painting, "The Lady of Shalott," at the Royal Academy, and in the following year brought out his first illustrated book, *The New Forest*. During the ensuing fifty years he published numerous works, including many charming books for children. *William Morris and Whistler*, which appeared in 1911, was among his latest literary productions. Of his pictures "The Renaissance of Venus" is now in the Tate Gallery, and "The Fate of Persephone" in the National Collection at Karlsruhe, while his most recent work includes his own portrait painted in 1912 for the Uffizi Gallery, Florence. The pictures in the lunettes of the Bristol Art Gallery are his work. For many years he acted as Examiner in Design to the Board of Education. He was Director of Design for the Manchester Municipal School of Art for three years from 1893, and Principal of the Royal College of Art, South Kensington, in 1898-99. He

founded the Arts and Crafts Exhibitions Society in 1888, and was for many years President. Among his principal works as a decorator are the ceiling and fireplace (modelled) at Coombe Bank, Sevenoaks; the dining-room, No. 1 Holland Park; friezes at Clare Lawn and East Sheen, and at Paddockhurst, Sussex; "Passing the Torch" at the West London Ethical Society's Chapel, Queen's Road, W.; Panels at the Women's Christian Temperance Building, Chicago; Frieze for the Galleries of the British Art Section, St. Louis Exhibition; Painted Frieze, Vinland, Newport, R.I., U.S.A.; Mosaic decoration, 1, South Audley Street.

THE EXAMINATIONS.

The Final: Designs approved.

The Board of Architectural Education announce that the designs submitted by the following Students have been approved:—

SUBJECT XIX.

(a) A MEMORIAL TO LORD ROBERTS.

Arnold: R. C.	Harrison: H. St. J.	Mungala: G.
Brandon: C. J.	Hendry: M.	Riexa: F.
Bruce: J. C. C.	Hull: V.	Sanders: T. A.
Carey: R. W.	Hutton: L. D. H.	Spence: W. N.
Cottingham: G. R.	Jopling: A. B. B.	Stevens: F. J.
Day: N. F. C.	Knight: W. J.	Tubbs: G. P.
Duncan: R. A.	Lawson: J. Scott.	Vonberg: W. C.
Evans: T. C.	Lyne: D. R.	Wood: A. G.
Foulkes: S. C.	Mitchell: C. H.	Woodhouse: F. P. M.
Graham: R. D.		

(b) A GARAGE FOR A LARGE COUNTRY MANSION.

Church: L. D. A.	Holden: W.	Roberts: E. W.
Dickinson: J.	Keep: N.	Sunter: M. C.
Doddington: W.	Mitchell: C. H.	Tanner: A. S.
Edwards: J. R.	Philp: A. T.	Vinden: G.
Gordon: P. J.	Pieton: C. S.	

Designs for other subjects, from the following candidates, have also been approved:—

Kellock: A. D.	Hemm: G.
Fisher: H. N.	Omar: I.

MINUTES. X.

At the Tenth General Meeting (Ordinary) of the Session 1914-1915, held Monday, 15th March 1915, at 8 p.m.—Present: Mr. J. Alfred Gotch, F.S.A., *Vice-President*, in the Chair; 17 Fellows (including 6 members of the Council), 20 Associates (including 2 members of the Council), 4 Licentiates, and several visitors—the Minutes of the Meetings (Special and Business), held Monday, 1st March 1915, having been published in the *JOURNAL*, were taken as read and signed as correct.

The Chairman announced that the President was suffering from a severe attack of influenza and was unable to be present.

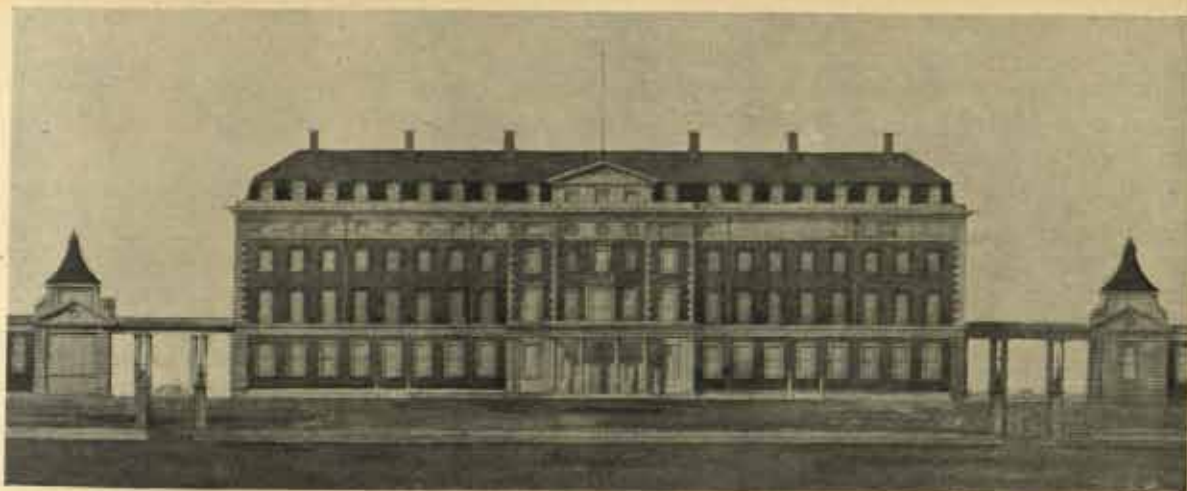
The Hon. Secretary announced the decease of Mr. Harry Wilkinson Moore, elected *Associate* in 1881, *Fellow* in 1888, and placed on the List of Retired Fellows in 1912.

Mr. James Williams read a Paper on ENGLISH CHURCH MONUMENTS, and illustrated it by lantern slides.

A discussion ensued, and on the motion of Mr. Arthur Keen [F.], seconded by Mr. Lawrence Weaver, F.S.A. [*Hon. A.*], a vote of thanks was passed to Mr. Williams by acclamation.

During the reading of the Paper Mr. Gotch having to leave early, the Chair was taken by Mr. Alfred W. S. Cross, *Vice-President*.

The Meeting terminated at 10.5 p.m.



Administration Block.

KING'S COLLEGE HOSPITAL.

By WILLIAM A. PITE [F.].

Read before the Royal Institute of British Architects, Monday, 29th March 1915.

THE removal of King's College Hospital to South London marks an epoch in the history of the Hospitals of the Metropolis. It was the first occasion in the present century that a large and important London general hospital had the opportunity of starting afresh with a clean slate. Other hospitals had extended their accommodation on an already cramped site, and the Committee of Management of King's College Hospital were brought face to face with the problem of remodelling and improving the old hospital to meet modern requirements. The hospital had rendered yeoman service to the development of medical and surgical science, and the very improvements it had helped to introduce had rendered the building and equipment sadly out of date. In 1893 a Select Committee of the House of Lords, recognising the pressing need for a large general hospital in South London, urged that this should be met, at the first opportunity, either by a new institution in a suburban locality or by the removal of one of the existing hospitals. The vast improvements that had been carried out in the West Central district of London within the past forty years had resulted in the abolition of vast and squalid rookeries, in which many hospitals had been built expressly for the benefit of the extreme poverty surrounding them. This left a series of "Huddled Hospitals," as a popular agitation termed it, in a district depleted of those for whom these hospitals were intended. King's College, St. Bartholomew's, Charing Cross, and the Royal Free were the principal hospitals of this group. The improvements attendant upon the building of the Law Courts and the construction of Kingsway had their especial effect upon King's College Hospital; and the Committee of Management, realising the inadequacy of the old building in Lincoln's Inn Fields, both as regards position and efficiency, boldly decided to adopt the recommendation of the Committee of the House of Lords and to rebuild the hospital at Camberwell.

The evolution of King's College Hospital is of some interest, and a brief reference is necessary. In 1839 the Council of King's College, finding that a school was necessary for the complete education of medical students, took measures for the formation, in the parish of St. Clement Danes, Strand, of a public hospital, supported by voluntary contributions, for the relief of the sick poor. Shortly after this the school was established. The hospital was started on the west side of Carey Street in a building which was formerly a workhouse; this was converted into a hospital under the direction of Sir Robert Smirke. A sum of £25,000 was spent upon the work entailed, accommodation being provided for 120

patients. Subsequently the needs of the hospital increased so rapidly that it was found requisite to obtain adjoining land. In 1848 the hospital authorities acquired the property known as the "Grange Inn" and 26 and 27 Clement's Lane. However, further extension was still necessary, and the Governors applied for and obtained an Act of Parliament, it being decided to erect a new and more spacious hospital, together with a chapel for the celebration of Divine worship. The plans were prepared by Mr. Thomas Bellamy, the building being completed in 1861. The change in character of the district, comprising the site of the Law Courts, since 1840 and the present time from rookeries, closed alleys, and slum property is phenomenal.

Just as the old hospital was deliberately placed where it was urgently needed by thousands of the very poorest people, so, too, is the new hospital. But changed conditions and modern methods of quick and cheap transit made it possible for the hospital to be built on the outskirts rather than in the centre of such a district. Denmark Hill, a place of old and prosperous associations, took its name from Prince George of Denmark, and is linked with memories of Ruskin, Byron, Robert Browning, Mendelssohn, Bessemer, and many another. It is the borderland between the squalor of Camberwell and the ever-growing residential suburbs on the outskirts of the metropolis. A high and healthy situation and a proximity to a certain amount of open country, or at least ground covered but thinly by solid houses with large gardens and fields, seemed to indicate it as a most suitable position, and in 1904 the present site was acquired and presented by Lord Hambleden (then the Hon. W. F. D. Smith), the Chairman of the Hospital Board of Management and the Removal Fund Committee. This site is situated at the junction of Denmark Hill with the S.E. & C. and the L.B. & S.C. railways. In size it is approximately just over 12 acres, and at the time of acquisition was occupied by six large, comfortable houses, with delightful gardens, orchards, and meadows. It is rectangular in shape, and has a gentle slope down from east to west, and a marked fall from south to north of some 15 feet. Ruskin Park, comprising about 22 acres, and dedicated to the memory of John Ruskin, with whose name Denmark Hill is so intimately associated, occupies the ground immediately opposite the hospital site on the other side of the railway. It can readily be seen what benefits to the hospital accrue from its proximity to such an open space.

Of the competition held soon after the acquisition of the site little need be said. On 17th March 1908 Lady Esther Smith cut the first sod after a brief dedicatory service, and building operations were commenced. The buildings were proceeded with, block by block, as the detailed working out of each section was completed. On 20th July 1909 King Edward VII. and Queen Alexandra attended in semi-state, and His Majesty laid the foundation stone, which can be seen in the main entrance portico. It is of melancholy interest to note that this was the last public ceremony of its kind performed by King Edward before his lamented death. On 26th July 1913 our present Sovereign, King George V., accompanied by Her Majesty the Queen, inaugurated the building, and in November of that year the first patients were admitted.

Such then, briefly, is the history of the removal of this great hospital. Thomas Bellamy's pile, ennobled by fine traditions, and by association dear to the hearts of all who have been within its walls, is no more; but the traditions of Lister and Todd, Ferguson, Priestly, and many others, have transferred themselves to the new buildings, where such great work for the alleviation of pain and suffering is being carried on.

LAY-OUT.

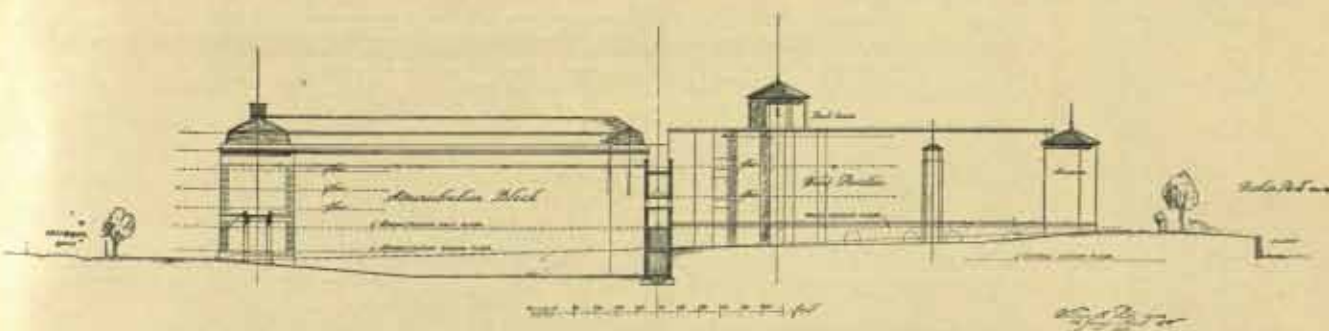
The general contour of the site produced a certain and definite problem, and the solution of this was at once effective and of far-reaching consequence. The ideal hospital site, it need hardly be urged, has a gentle slope towards the south, whereas the site at Denmark Hill had a steep fall in the opposite direction of about 15 feet in the total width of 528 feet.

Certain first principles governed the disposition of the buildings over the site, and the application of these to suit the exigencies of the occasion was a matter of much thought and consideration. The

natural position for the wards to occupy was the southern portion of the site, and upon the placing of the Administration Block in relation to the wards hinged, to a great extent, the solution of the problem. It is an interesting fact worth recording that, having decided upon the general disposition of the buildings, it was practically impossible to move the central axial lines of the whole scheme more than a few feet either way.

At the time of the competition Bessemer Road existed only on paper, and it seemed natural enough that the Administration Block should take up its position on the main road—Denmark Hill. However, after due trial, the present position was decided upon, but it still remained to grapple with the slope of the site. It was found, however, that a floor-line taken from about the highest level of the site—i.e., the southern boundary—permitted the inclusion of another floor under on the northern portion of the building. That is, by placing the first floor of the Administration Block on a level with the ground floor of the ward blocks, that portion of the Administration not immediately connected with the wards was at once thrown out of direct contact with them and their attendant flow of ward traffic, whilst that part of the Administration devoted to nursing was placed in a position most convenient for communication with all the wards and their attendant units.

The position of the wards and the Administration Block having been settled, the remainder of the

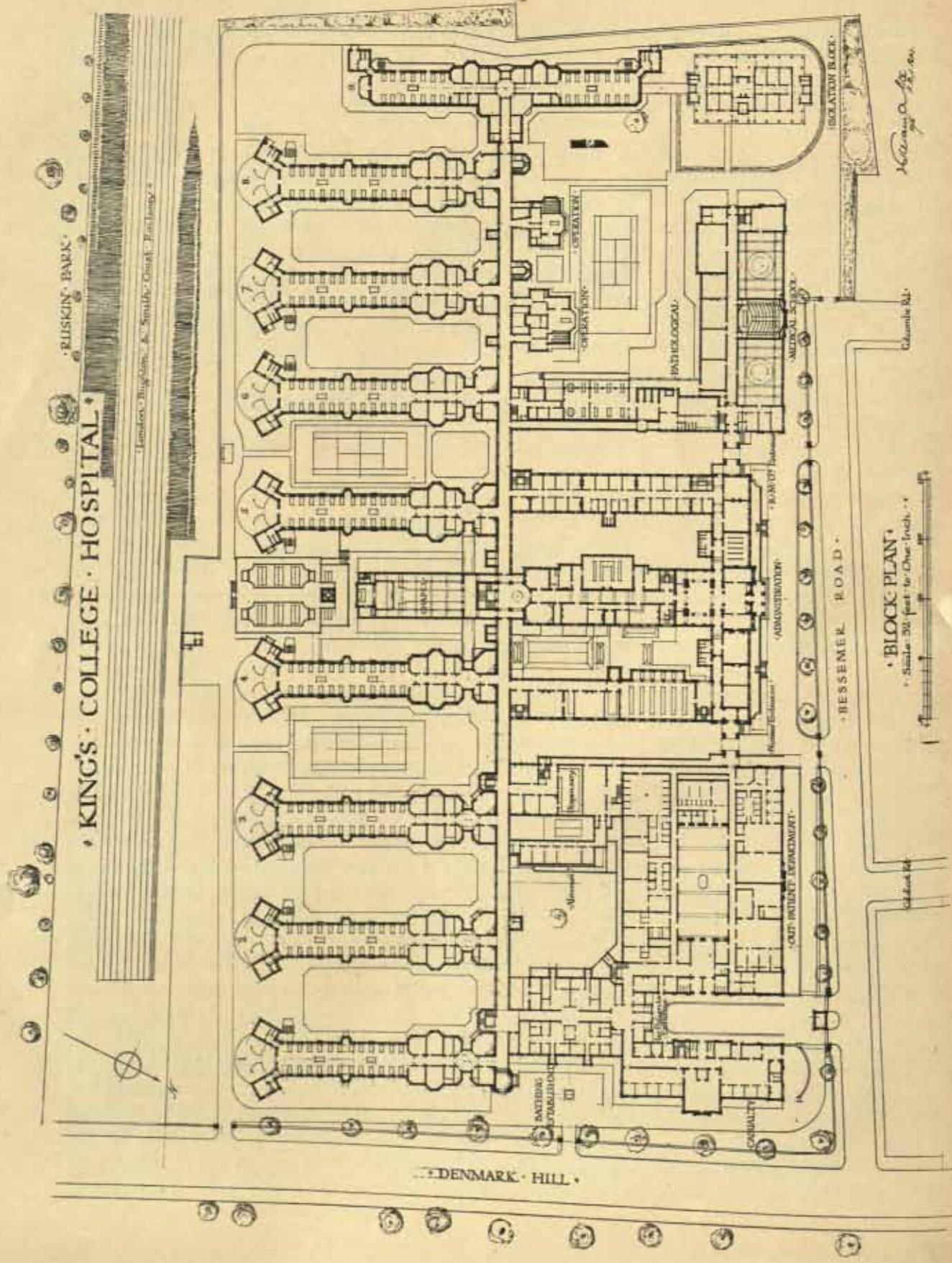


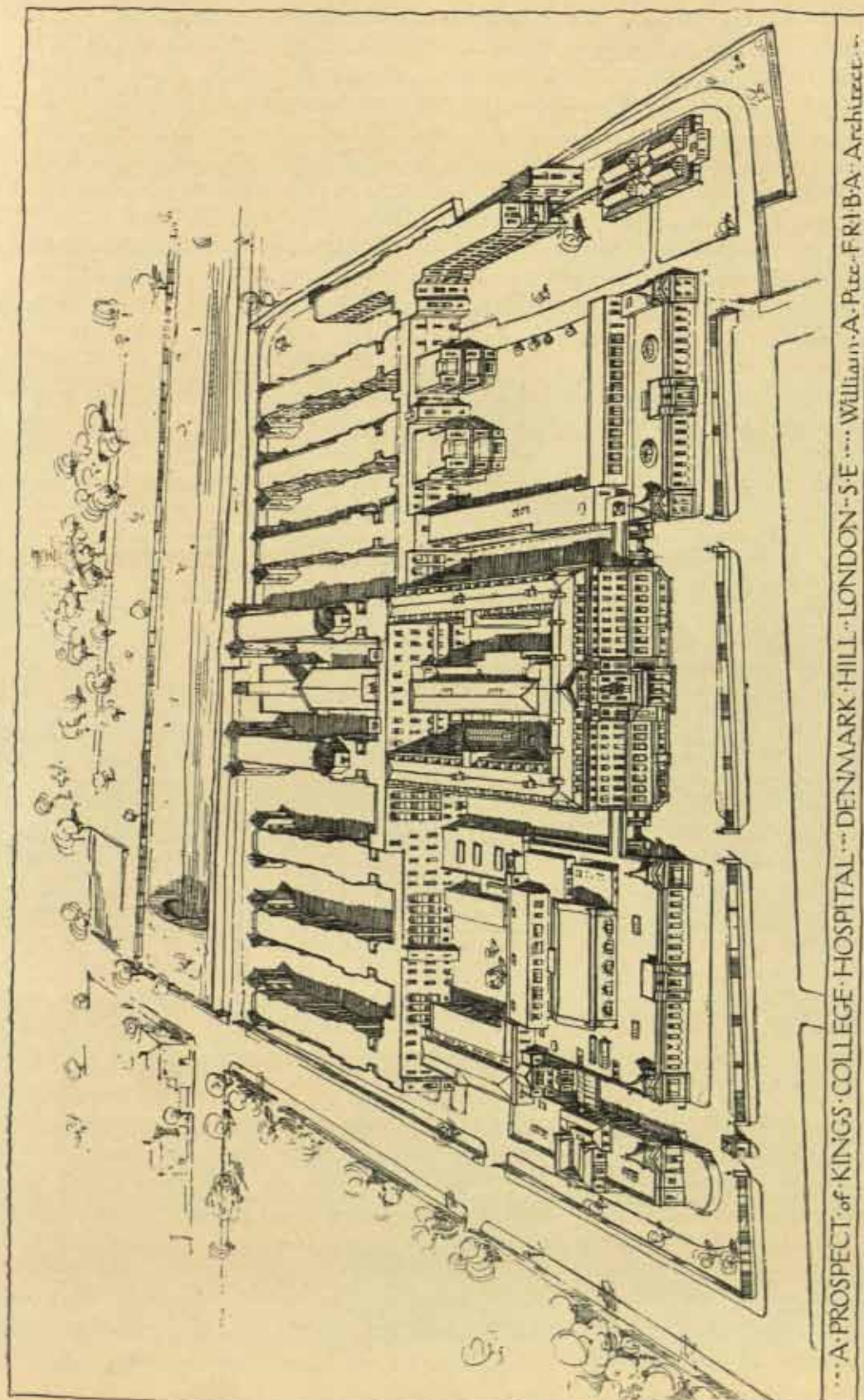
Diagrammatic Section of Site, North to South.

buildings fitted in in almost a natural sequence, and a study of the Block Plan [p. 244] will demonstrate the disposition of the various portions of the organisation. The proportion of unoccupied land to buildings is as follows:—Land, 7.75 acres; buildings, 4.50 acres. The site is divided into two portions, northern and southern, by the main hospital corridor. The ward pavilions themselves occupy the whole of the southern portion of the site, stretching from east to west in an unbroken line, the chapel and central station bisecting this. Not only do the wards benefit by the sun and air, but the patients in them have the full advantage of the pleasant sylvan aspect of Ruskin Park, only separated by the railway, the inconvenience of which is minimised by the fact that the lines run in a shallow cutting, and half the traffic is electric traction. The main hospital corridor at once divides the wards from the rest of the hospital and provides inter-departmental communication.

The central position occupied by the Administration Block permits the minimum amount of distance to be covered in communicating with any of the wards. Had this block been placed on the Denmark Hill front of the site, the walking distance from this department to the western wards would be doubled. Bessemer Road provides convenient and private access to the main entrance, and the Nurses' Home, contained in the upper storeys, in this block is isolated from the traffic of Denmark Hill and its consequent disturbing influence.

The eastern portion of the site is occupied by the Out-patients' and Casualty Departments, with whose working the noise of traffic offers least interference, whilst at the same time its proximity to





...A PROSPECT OF KINGS COLLEGE HOSPITAL... DENMARK HILL... LONDON... S.E. William A. Pitt. F.R.I.B.A. Architect...

the main road provides ready access for the large daily flow of patients without bringing them into contact with the rest of the building. The Casualty Department occupies the extreme north-east corner of the site, at the junction of Denmark Hill with Bessemer Road, and the courtyard formed between this block and the Out-patients' Department contains the entrances both to the departments mentioned and to the wards. In-patients and their friends enter a door at the end of this courtyard, and by means of a short corridor through the Bathing establishment are brought into the main hospital corridor, where a staircase and lift give access to the upper floors. Thus the entrances for patients of all descriptions are grouped round one courtyard, which greatly facilitates the working of the Administration. The keynote of the planning of the building has been "centralisation and radiation." It will be seen that the various staff entrances are all contained in the Administration Block, and that all departments, self-contained when necessary, radiate round what may be termed the eye of the building—the main staircase at the junction of the Administration Block with the main corridor.

To return from this digression to the description of the disposition of the buildings, it will be seen that the remaining or north-western portion of the site is occupied by the Pathological Block, the Medical School, the Operating Theatre Blocks, and the Isolation Block. The Pathological Block, which contains the Mortuary Department, is directly connected with the main corridor, and the Medical School at either end. These form an L-shaped plan, the Medical School balancing in elevation the Out-patients' Department, and by its very position screening those portions of the site which should be essentially private. These portions are the Mortuary exit and the Operation Theatre Blocks, which are two in number, each containing two theatres. They are connected with the main corridor west of the Pathological Block; whilst beyond them stretches the northern wing of the special ward block, terminating the main corridor and providing, in its basement, access to the Isolation Block in the extreme north-west corner of the site.

The original intention of placing the Central Heating and Lighting Station at the western extremity of the site was found impracticable owing to the level of the ground. So its position was decided upon in the centre of the southern portion of the site, which is, of course, most economical for the runs of piping. It has been found possible to place this department in an excavation, so keeping the roof at a low level, affording no obstruction to the wards, and providing a pleasant roof promenade for the use of the patients. A roadway around the site provides access for coals, etc. The possibility of the construction of a siding from the railway has been provided for.

The bird's-eye view [p. 245] shows the grouping both in plan and elevation. It will be seen that the Administration Block and the two Centre Ward Pavilions are the highest portions of the building. On either side are grouped the other buildings, all on a lower level, with the exception of the Special Ward Block. The upper storey of this, however, is a provision for future extension, as are the three Eastern Ward Blocks, which nevertheless are a vital part of the scheme, and as such have been included in the description. On the portion of the site which these will eventually occupy are retained three of the original houses.

The site on its road boundaries is enclosed by a simple but effective wrought-iron railing, and a roadway runs round the site inside the boundary. The border between this and the railing has been planted with various trees and shrubs, nearly all of a flowering variety, and as many as possible of the existing trees have been retained, though unfortunately some of the most attractive had perforce to go.

ARCHITECTURAL CHARACTER.

In dealing with a hospital building, one of the greatest factors acting upon the design is the restraining influence of the requirements. The building must be structurally as sound and perfect as possible, but charitable money is not to be expended on undue architectural embellishment. At the same time there is danger of erring in the opposite direction and producing a building utterly bald

and devoid of interest. The general *motif* of the design in this case is inspired by the restrained school of the mature English Renaissance; but of necessity parts of the building, especially those which contain the more technical portions of the hospital, have a character entirely their own, and by the very truthfulness of the interpretation of the purpose give the impression of a substantial, well-proportioned and sincere building, not disguised in the cloak of any architectural style. The Administration Block, the more domestic part of the building, rises in a compact and dignified mass. A Roman Doric portico in Portland stone marks the main entrance, and colonnades of similar character connect this block with the Out-patients' Block and the Medical School which flank it on either side. The ground storey is faced with cherry-red bricks, the upper floors being treated in picked London stocks with red dressings. This brickwork is framed in by Portland stone quoins, and a certain massing of stonework in the centre and along the storey under the large crowning cornice gives the



Out-patients' Department.

effect of a dignified and broad treatment, further enhanced by the long sweep of the mansard roof, executed in Westmoreland slates.

The flanking buildings, with the stonework massed in appropriate positions, both in the centre and under the lead-covered turrets, are not without character and interest. The treatment of the wards themselves, with the bricks of various and pleasing colours, and the windows recessed, breaking the wall surface into a series of verticals, displays a building at once utilitarian and well-proportioned.

Internally a hospital does not offer much scope for architectural treatment, as that term is generally understood. But the hard, clean surface and finish required by the amenities of working and cleansing does not produce an altogether mechanical impression when sympathetically treated. In those places where a certain amount of treatment of a more architectural character is permitted, the requirements of hospital finishing still hold good, though in a much less marked degree. But this restraining influence has had quite a beneficent effect upon the design, making proportions tell more than enrichment. Such rooms as the Chapel, Board Room, Nurses' Dining Hall, Secretary's

Office, and the Library in the Medical School have a character quite their own, and they convey an impression of solidity and good quality, and of general restraint and restfulness.

MAIN HOSPITAL CORRIDOR.

The Main Hospital Corridor, the great artery of the organisation, serves to connect the Administration Block—the heart—with all parts of the building, and at the same time provides all inter-departmental communication. Its central position minimises the amount of ground to be covered, and although its length is almost 900 feet the various parts of the building are so disposed that it is rarely necessary for anyone in the course of duty to have to traverse the whole of this length. It may be interesting to note in this connection that the actual experiences of those engaged in the administration of the hospital have shown that the minimum amount of time is expended in reaching the various parts of the building. The ease of working is the supreme test of the planning of a building of this nature, and in the case of King's College Hospital the principle of "centralisation and radiation" which has governed the planning may be said to have been amply justified. The central corridor with its various staircases, especially the principal staircase in the Administration Block, is a vital part of the planning of the building, and due consideration has been paid in the matter of avoiding all unnecessary congestion of traffic in it. Therefore all large departments are entirely self-contained, and by this means hundreds of people using these blocks never find their way into the main corridor. The empty appearance of this corridor has been remarked by those who are used in other hospitals to seeing the main corridors crowded with people, and such a state cannot but cause confusion and delays. It can thus be seen how vitally important is the planning of the main artery of a large hospital, both from the view of ease of working and avoidance of congestion.

The corridor has a uniform width of 10 feet. The disposition of the various buildings has been explained, and is shown on the block plan [p. 244]. Between the various buildings "blow-throughs" are introduced between the floors of the corridor, and in every way encouragement is offered to the efficient circulation of air over the site. The floors are of asphalt, with Durato border and cove skirting, and the corridor is amply lit and ventilated by improved "Austral" windows, which are described in the section dealing with the wards, radiators being installed to ensure adequate warming.

THE ADMINISTRATION BLOCK.

The Administration Block is built in four portions, the front one being connected with the Main Hospital Corridor by the other three. The departments housed in this block are the Secretarial and the Resident Medical Officers on the ground floor, the Nurses' Home, the Kitchen and the Servants' Home.

There are three principal entrances and two subsidiary ones to this block, besides goods entrances. The main entrance is in the centre of the block, and at either side under the colonnades are the Nurses' and the Resident Medical Officers' entrances. These communicate with the corresponding departments, which can at will be shut off from the rest of the building. At either side of the main entrance portico are steps down to the basement entrances, one being for porters and the other for servants. Goods entrances are in the courtyard between the Administration Block and the Out-patients' Department. This courtyard also contains the Dispensary Goods entrance.

The main entrance opens into a vestibule with Porters' Office and Students' Room on either side. Beyond this is a transverse corridor joining the Resident Medical Officers' and Nurses' entrances. But, and this is important, doors placed across this corridor convert it into three portions, of which the Nurses' portion is always kept cut off by a locked door. The same can be done with the Resident Medical Officers' portion, but in practice it is considered convenient that their department shall be accessible from the main entrance as well as from its own separate entrance. On the other side of this corridor and directly opposite the Lobby is the Hall. This embraces two floors, and is of a simple

plaster-finished columnar treatment, crowned by a flat dome with circular top light. The upper floor is carried round as a gallery, linking up the various departments over. From this hall runs a corridor to the principal staircase, the eye or centre of the whole scheme. On either side of this corridor are disposed the various rooms of the Secretarial Department and the Board Room.

The Board Room, measuring 42 feet by 27 feet, is treated in a simple and effective manner. The walls are finished in flatted "broken white" paint, and a series of portraits of those who in the past

have done much to build up the reputation that King's College Hospital enjoys to-day are framed and treated as part of the decorative scheme. In pleasing contrast is the light hue of the oak joinery and the mellow tone of the teak floor, whilst a note of colour is added by the fireplace, which is executed in Polyphant, a powder blue Cornish stone of a slate-like texture, forming an admirable frame to the bright steel basket grate. The large windows, doors, of which there is a pair at either end, and the dado are of Austrian oak, and radiators are concealed within the window recesses.

The Secretarial Department comprises a range of inter-communicating offices opposite the Board Room, amongst them being a strong-room. There are also Clerks' and Dining Rooms, with service, and Lavatory accommodation. The Secretary's Office itself is treated in the same spirit as the Board Room, and has adequate cupboard accommodation. These cupboards are recessed in the wall, and their doors are sliding.

The Resident Medical Officers are housed in the west



End View of Administration Block.

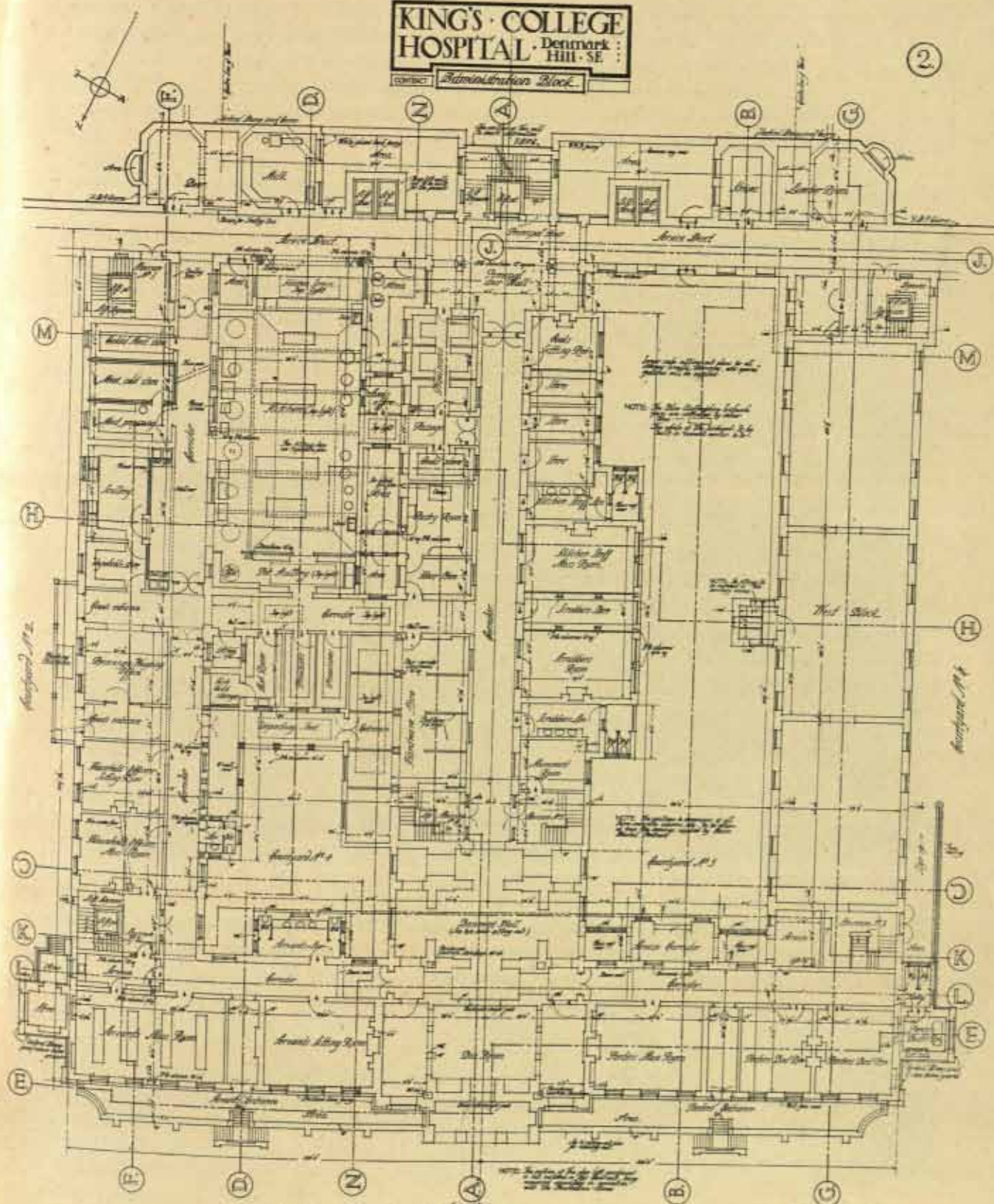
wing. Bed and sitting-room accommodation is provided for twelve, each sitting room, however, being shared by two men. Three bathrooms and a disconnected sanitary annexe complete the suite. These rooms are disposed on either side of a corridor communicating with the Main Hospital corridor. In the front block are the Dining and Recreation Rooms, and the position of the entrance directly opposite that to the Medical School is of great convenience for communication between the blocks.

The entrance to the Nurses' Home is at the north-east corner of the block, corresponding to the

KING'S COLLEGE HOSPITAL Denmark Hill SE

Administration Block

②



BASEMENT

The plan is subject to change without notice. The plan is subject to change without notice.

Resident Medical Officers' entrance. Here there is a female porter's office, a cloak room and lavatory, and a room in which nurses can see their friends. From the staircase hall a stair communicates with all floors of the Nurses' Home, and in the well of the stair is installed an electric push-button lift. Leading off this hall is the large Dining Hall (63 feet by 38 feet $4\frac{1}{2}$ inches), providing seating accommodation for 150 nurses, and a serving room, with hot-plate carving table, is placed at the south end; electric lifts communicate with the Kitchen Department below.

The Dining Hall has a flush hardwood dado. The octagonal piers to the large bay are an example of what might be termed the "Hospital Order." The lead comes of the large windows give scale to the room. Beyond this room are two smaller messrooms, one for the use of Sisters, the other being used for Nurses' luncheon.

On the first floor in the front block are situated the Nurses' Recreation Room, with balcony over the entrance portico, Staff Nurses' and Probationers' sitting rooms, and a writing room. At either end of this floor are the Sister Matrons' and the Assistant Matrons' apartments. The Sister Matrons' suite comprises sitting room, dining room, bedroom, bath, and w.c. It is entirely self-contained, with a small internal passage hall. The Assistant Matrons' suite is similar, with the omission of the dining room. The nurses' bedrooms on the floors over are reached by the before-mentioned staircase and lift from the nurses' entrance. Other staircases are placed at the southern end of the east block and western end of the north block communicating with the bedroom floors, and giving access from them to the dining hall, the nursing administration, and the wards. The two former are reached via a short private corridor parallel to the Main Hospital corridor leading to the first floor of the main staircase hall.

The administrative portion occupies the centre block on this floor. It contains the matron's office suite (comprising office, secretary's room, and waiting room), a uniform-maker's room, three Sisters' sitting rooms, and a sick Nurses' consulting room. Over the Board Room is the Nurses' Classroom, which is very pleasantly lit by a clerestory top-light. In this room are installed various forms of apparatus, including a range for cookery demonstrations. There is a lavatory in connection with this room, and the Assistant Matron, who supervises the Nurses' tuition, has an office in close conjunction. Opening into the staircase hall, and opposite the chapel entrance, are the Chaplain's rooms—bedroom and study. A private staircase connects this floor with the Secretarial Department below.

The floors of the corridors and bedrooms are covered with linoleum; there are disconnected sanitary towers containing on each floor water-closets, and a bathroom is provided for, on the average, every six bedrooms. A basin is fitted in each bathroom, and the baths have an ingenious arrangement of calorifier cistern whereby a limited but ample supply of hot water is assured for each time of using. The floors are of terrazzo, with channels benched up in the same material. Three hair-washing rooms are provided. These each contain a range of large special basins; and two small gas fires, fixed at a convenient height from the floor, facilitate the drying of the hair.

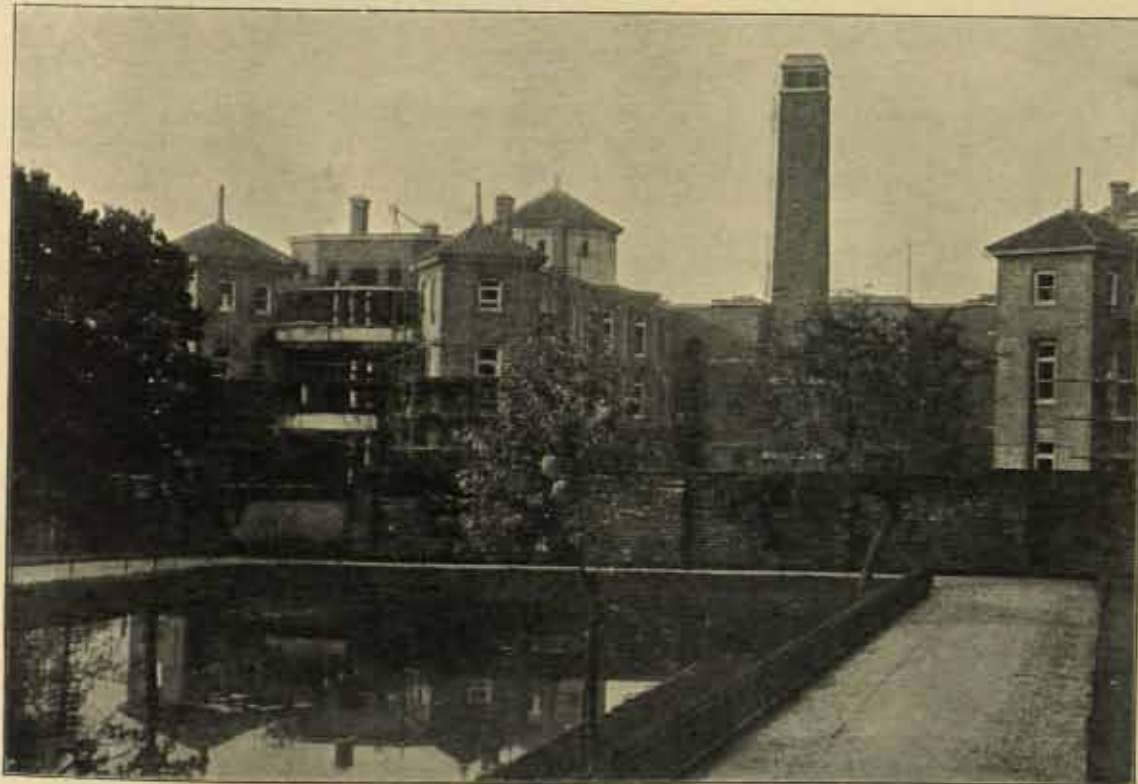
The bedrooms themselves measure on the average 12 feet by 9 feet. They are fitted with a built-in wardrobe reaching to the ceiling, thus avoiding the usual dirt-pocket on top of an ordinary wardrobe. A marble angle slab for jug and basin and a smaller one for the carafe are fitted in each room. The corridors are well warmed by radiators, and a fanlight with check-stay over each door regulates the entry of warm air to the rooms, whilst an extract flue in each room assures constant circulation of air. The walls are finished with distemper.

The servants' bedrooms are contained in the two upper floors of the central block. Cubicle accommodation for about fifty is provided, several larger bedrooms being set apart for the upper servants; large lavatories, with a good range of basins, are installed on each floor, besides bathrooms and sanitary accommodation. The Servants' Home communicates directly with the Kitchen Department by a stair passing the Sister Matrons' floor, and accessible therefrom.

The kitchen, a large room measuring 70 feet by 35 feet, is situated in the courtyard between the

east and centre blocks. A screened and ample service lobby separates it from the Main Hospital corridor (basement), whence access is obtained to the service lifts. The roof is constructed in ferro-concrete, and is an interesting example of the use of this material. It contains a large top light. In the Engineering Section will be found a description of the apparatus installed. To a certain extent areas divide the kitchen from the main blocks, and flues are provided to carry away all cooking smells. Around the kitchen are disposed the various stores and larders, scullery and pastry room, and other similar rooms, whilst the cook has an office overlooking the kitchen. Near the Kitchen are the Sister Housekeeper's office, and the various grocery and hardware stores are under her direct supervision.

In the centre of the courtyard facing the Out-patients' Department is the goods entrance, the Stewards' Office commanding the view of this door. Near by are the Household Officer's messroom and sitting room. The front block contains the servants' and porters' entrances, which have been



View of Wards from Ruskin Park.

alluded to before; adjacent to these are the respective messrooms. There are also a servants' hall and two porters' bedrooms. The basement of the west block is at present unallotted.

WARDS.

The ward pavilions, as can be seen on reference to the block plan [p. 244], are all placed on the south side of the main corridor, the exception being the northern half of the special ward block. This block is placed with its central axis on the axis of the main corridor at the western end. The ward pavilions have their axes approximately north and south, and get the maximum amount of sunlight, whilst avoiding the discomfort of the Midsummer meridian. The full scheme provides two central three-storey ward blocks on either side of the chapel and central station, flanked by three two-storey pavilions, east and west, which together with the special ward block above referred to comprise a total of nine pavilions. At present the three eastern blocks are not built, as they and an additional storey on

The plans of all the ward units, with the exception of those in the special block, are essentially the same. A wide-arched opening leads directly from the main corridor into the ward corridor, 8 feet in width. Three pairs of swing doors are placed in this corridor. The first two pairs are on either side of the cut-off lobby. The only room accessible before reaching this is the Ward Sisters' sitting room, which is thus in close proximity to the ward and at the same time separated therefrom. Four rooms open into the cut-off lobby; they are the Patients' dayroom, Nurses' lavatory, a sinkroom, and the Wardmaids' closet. Beyond this lobby are, on the left, the Patients' clothes store, the duty room with a small larder, and the clinical room, which also communicates directly with the ward. On the right are a linen room and two single-bed wards. The third pair of swing doors in the corridor lead directly into the ward; these doors are glazed with an ingenious combination of obscured and clear



Ward Interior.

plate glass. The advantage of this is that supervision of the ward from the corridor, and *vice versa*, is possible without opening these doors.

The wards themselves are 108 feet 11½ inches long by 26 feet 3 inches wide and 13 feet high. They contain 24 beds, spaced about 8 feet 6 inches centre to centre; the superficial area is 122 feet per bed, the cubic capacity per bed being 1,575 feet. Each bed has a window on either side, the glass area being 1 foot super to 70 feet cube. The windows are of the improved "Austral" pattern, and are flush with the walls. These windows merit a detailed description. They are entirely without boxing, sash lines and weights, being arranged on a system of one sash balancing the other on a pivot turning about a fixed point. A check is provided whereby the frames open to such a position that ample central ventilation is provided with a minimum of draught. By moving this check the sashes, continuing the

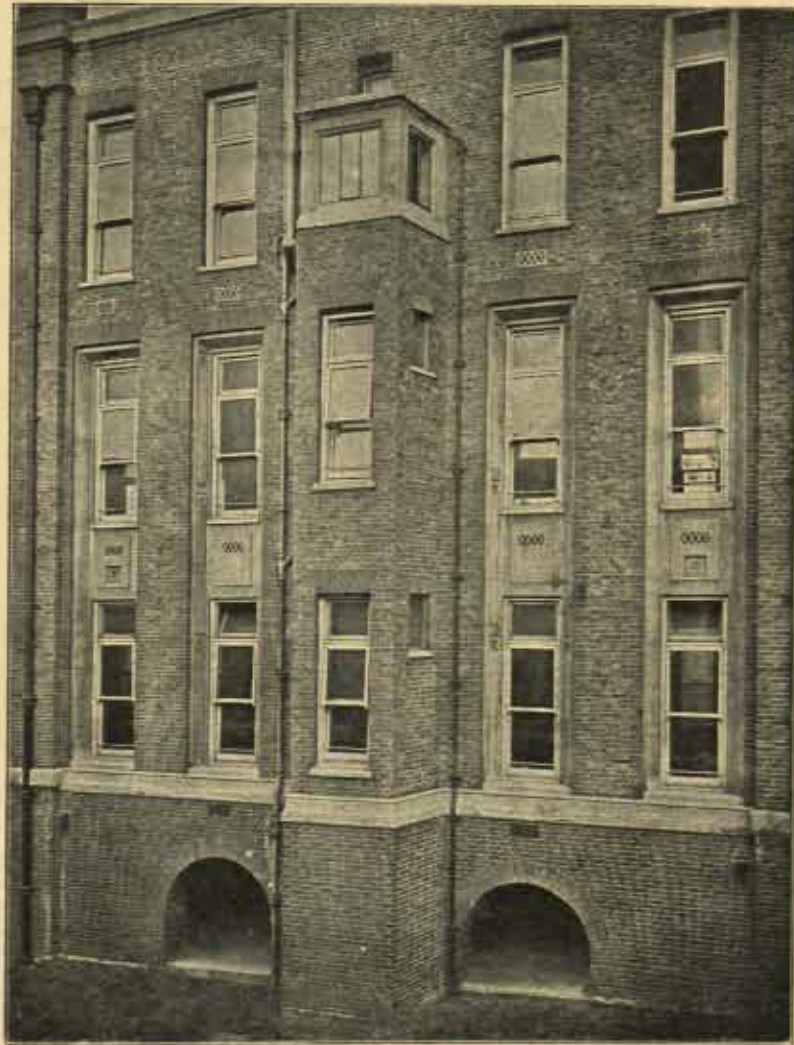
movement in their grooves, form large hopper lights which can be considered equal to opening the whole window area. By releasing two catches each sash can be swung in for cleaning. Above these are hopper ventilators, with glazed cheeks, reaching to the ceiling. The glass of these hoppers is obscured in order to diffuse direct sunlight, and thereby enabling the blind to be fixed at the transom level.

The floors of the wards are of the "Mouchel-Hennebique" system of ferro-concrete, the space between the beams being occupied by hollow terra-cotta blocks. These fulfil the double purpose of preventing the conduction of sound, and allow the ward ceilings to be plastered flush. The floors of the wards are of stout linoleum laid on a Durato sub-floor, with Durato border and coved skirting. All internal angles are coved to a radius of $2\frac{1}{2}$ inches.

The warming is by radiant heat supplemented by the low-pressure steam radiators of the hospital pattern, with regulating fresh-air inlets. The pipes to these are carried up outside the wards, concealed within the splayed window jambs, which are hollow, with removable concrete blocks with lifting rings in the required positions. Two Teale dual stoves, with descending flues running in the thickness of the floors, and fed by fresh air, are placed in each ward. Opportunity has been taken in the Children's Ward to insert in the tiling of these stoves pictorial representations of such youthful heroes as Jack the Giant Killer, Tom the Piper's Son, and many another.

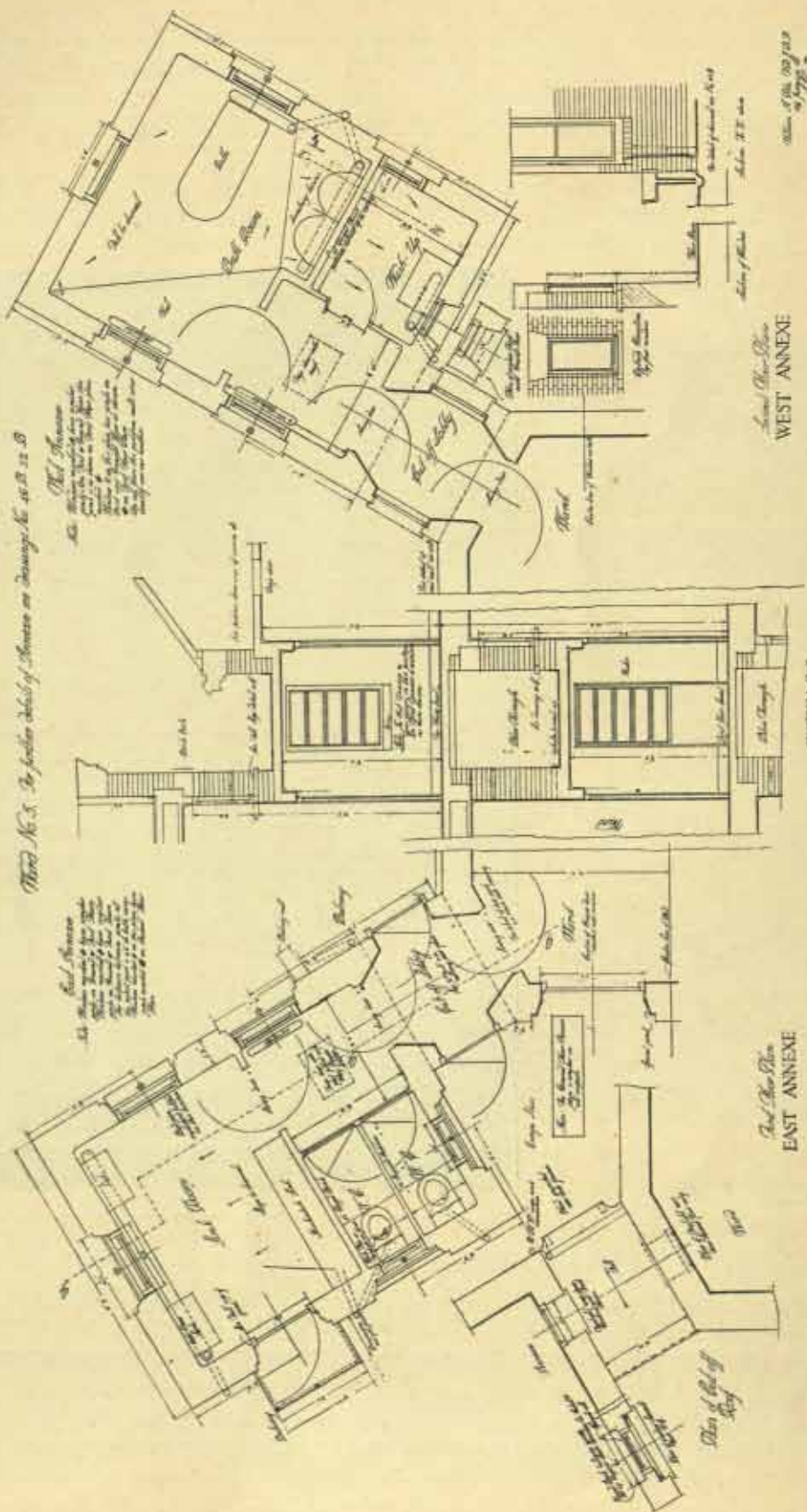
The walls and ceilings are finished with flat enamel paint, that on the former being of a restful green tint. The doors are all flush hardwood, with double glazed flush bull's-eye lights where necessary. The small bays on each side of the ward are a novel feature. They are of extreme utility, containing as they do basins for the use of the staff and shelves for sterilisers, lotion bowls, &c.

At the end of the ward are large glass doors leading on to the sun balconies, and on either side are the entrances to the sanitary towers, through low, well-ventilated, cut-off lobbies. One of the sanitary towers contains two w.c.'s and a sink room. The closet doors and partitions are 9 inches clear of the terrazzo floor. The closets installed are of a corbel pattern, with waste-preventing cistern immediately over the seat.



Detail of Ward Sink Bay.

Drawing No. 10 B

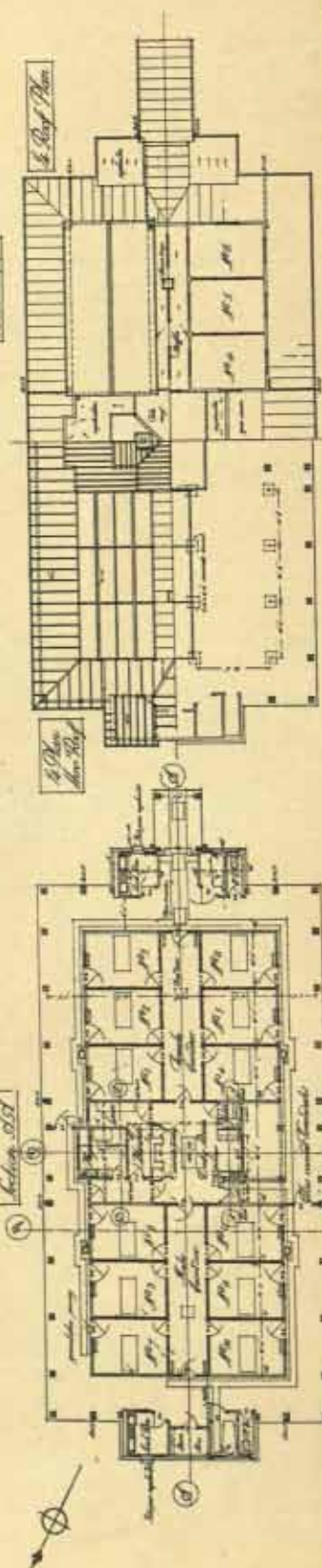
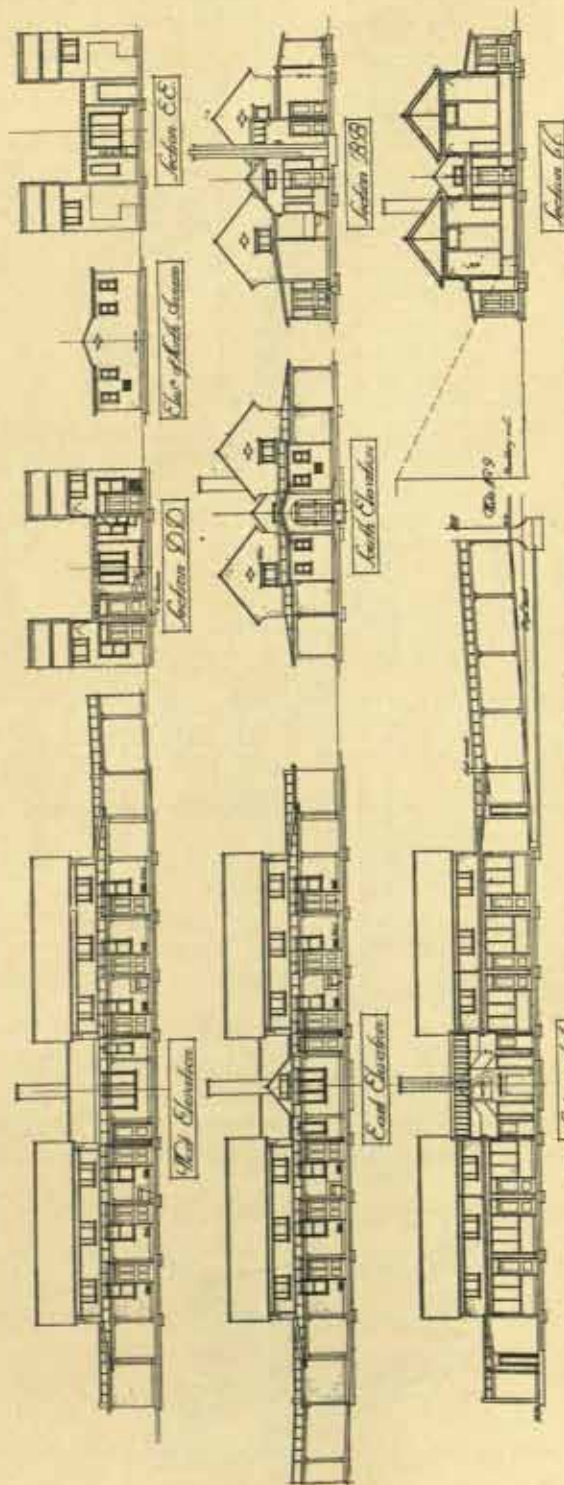


Drawing No. 1

KING'S COLLEGE HOSPITAL FENMARK HILL S.E.

Architect No. 20

ISOLATED WARDS



Ward A.A. 4000
at King's Hill
October 1900

Ward B.B. 4000
at King's Hill
October 1900

Ward C.C. 4000
at King's Hill
October 1900

Ward D.D. 4000
at King's Hill
October 1900

Ward E.E. 4000
at King's Hill
October 1900

Ward F.F. 4000
at King's Hill
October 1900

Ward G.G. 4000
at King's Hill
October 1900

Ward H.H. 4000
at King's Hill
October 1900

Ward I.I. 4000
at King's Hill
October 1900

Ward J.J. 4000
at King's Hill
October 1900

Ward K.K. 4000
at King's Hill
October 1900

Ward L.L. 4000
at King's Hill
October 1900

Ward M.M. 4000
at King's Hill
October 1900

Ward N.N. 4000
at King's Hill
October 1900

Ward O.O. 4000
at King's Hill
October 1900

Ward P.P. 4000
at King's Hill
October 1900

Ward Q.Q. 4000
at King's Hill
October 1900

Ward R.R. 4000
at King's Hill
October 1900

Ward S.S. 4000
at King's Hill
October 1900

Ward T.T. 4000
at King's Hill
October 1900

Ward U.U. 4000
at King's Hill
October 1900

Ward V.V. 4000
at King's Hill
October 1900

Ward W.W. 4000
at King's Hill
October 1900

Ward X.X. 4000
at King's Hill
October 1900

Ward Y.Y. 4000
at King's Hill
October 1900

Ward Z.Z. 4000
at King's Hill
October 1900

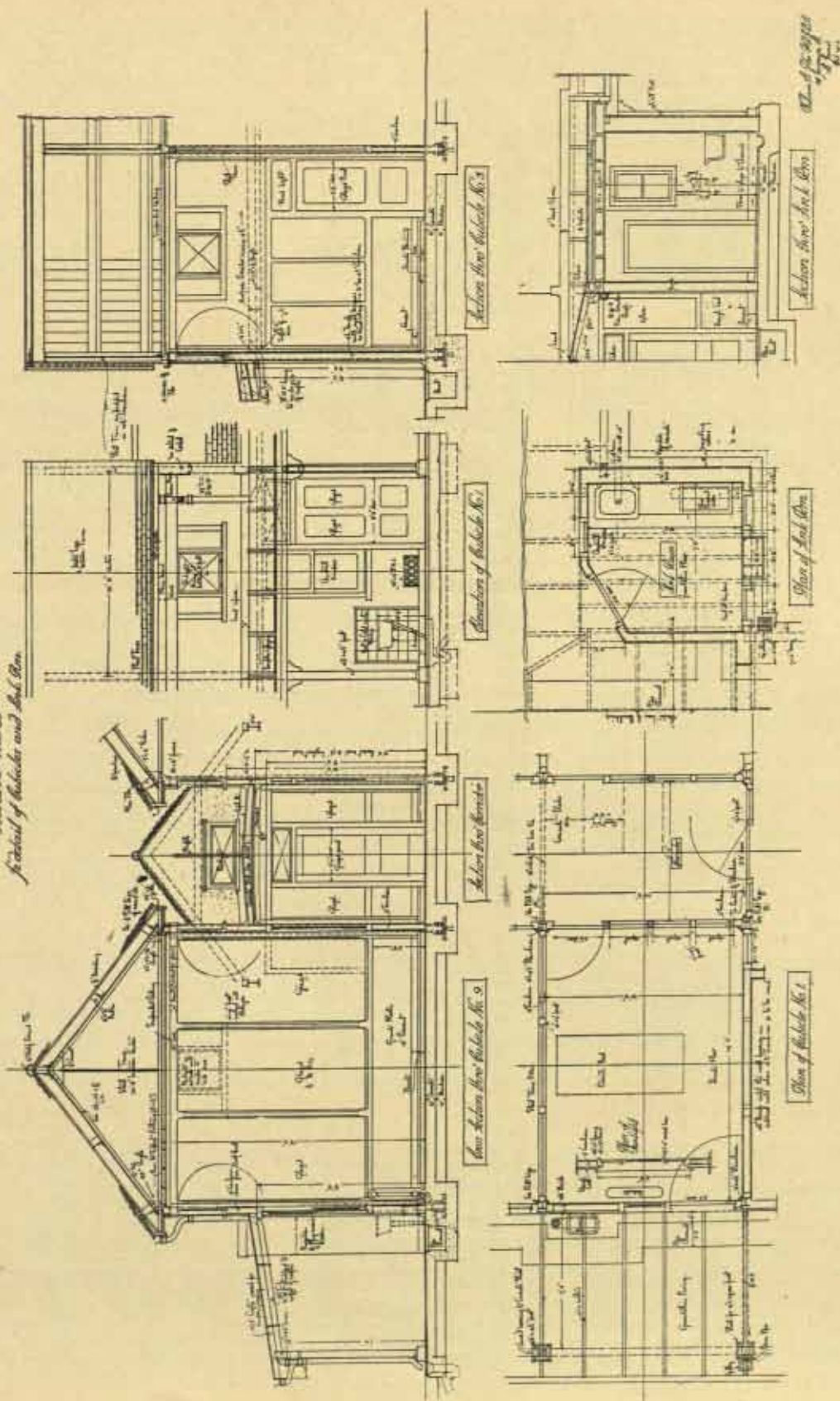
Kings College Hospital L.C.

Solated Ward

Plan of Subside and Bed Room

Drawing No. 2

Section No. 1



The sinkroom contains a bed-pan sink of an excellent type, and warming racks of special design are provided for the bed-pans. An ingenious cupboard for those in which specimens are retained is fixed under a window. It has external ventilation, and is provided with glass shelves and close-fitting metal doors. For soiled linen bins small outside balconies are provided, and the bins are so constructed that the crutches of a simple trolley engage the pivots of the bin, by which means the bin, tightly sealed, can be wheeled away. Other fittings in this sanitary tower are a macintosh sink with scrubbing board and a hot-water bottle heater on the calorifier system.

The other sanitary tower contains bath and lavatory accommodation. The floor again is of terrazzo, with channels into which the baths and basins discharge. A small wash-up room with sink is also provided. The walls of these sanitary annexes are of glazed brick. The warming is by means of radiators.

The single-bed wards are finished in a similar manner to the main wards, having, however, Durato floors. These are served by the special sinkroom, entered from the main ward cut-off lobby, placed at the north end. For the convenience of these patients, and those in the ward who are unable to reach the bathroom, a portable bath is provided. This is kept in the cut-off lobby, where there is a gulley benched up to take the discharge, a valve with hot and cold mixing box supplying the bath.

The Clinical Room and Ward Kitchen both have Durato floors. The former is fitted with a large examination table constructed of teak with an inlaid glass top. The lotion jars are supported on a slate shelf, a sink with porcelain slab and glass shelves being also provided, and a poison cupboard, specially designed and fitted, and provided with electric light.

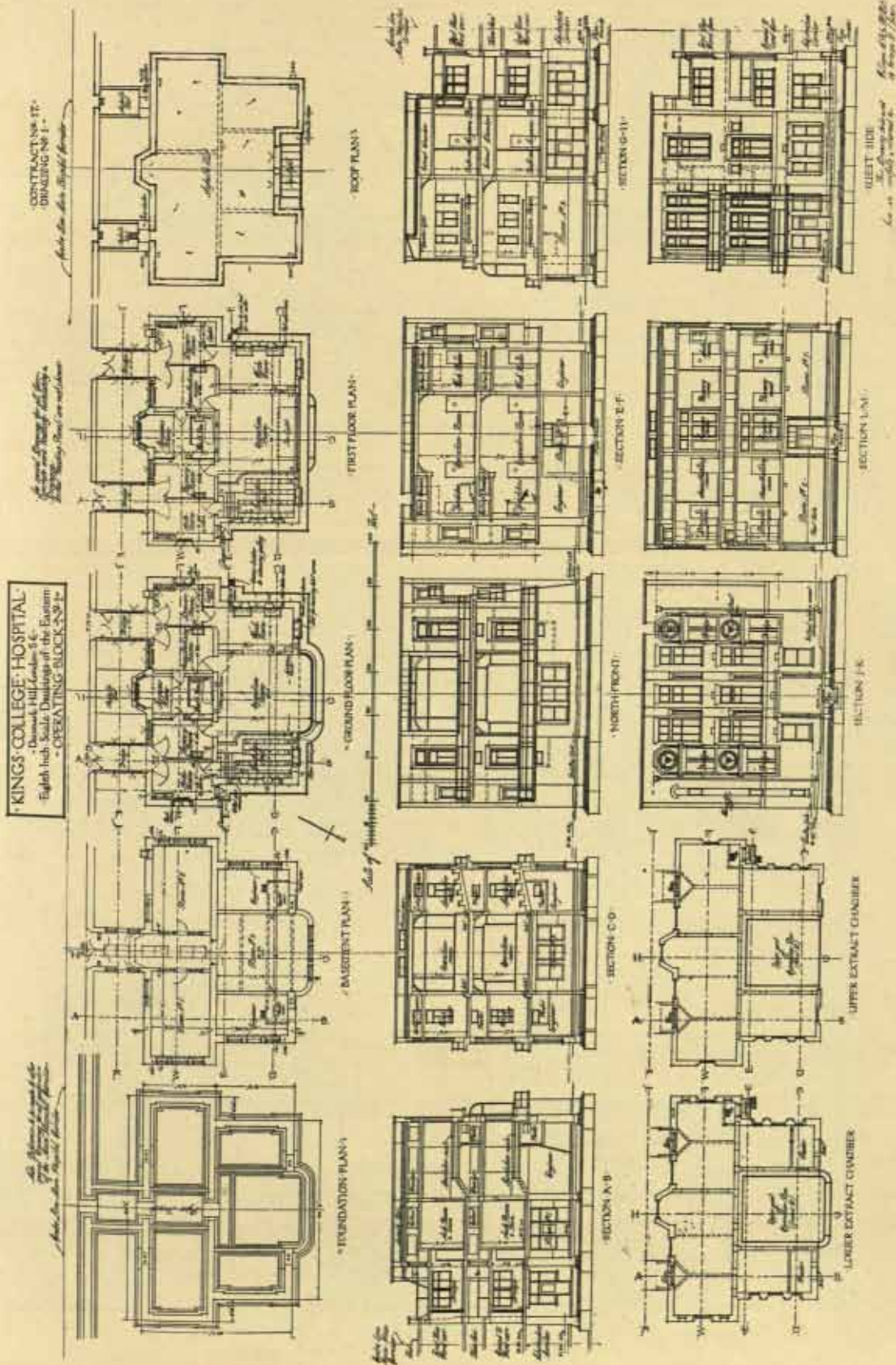
The Duty Room or Ward Kitchen has an electric tea-making and egg-boiling apparatus of special design, which can be filled from a heated reservoir over, the electric current being required only to complete the boiling process, a hot serving closet, heated by hot water, being provided below; a sink with drainer, and plate rack over, is also provided. A cupboard with separate lockers is provided for patients' fruit, and fitted with special removable tin-lined divisions.

The linen cupboards in the Linen Room are provided with sliding doors, ample provision being also made for their ventilation. These cupboards are well warmed by pipe coils off the hot-water system. Where possible this subsidiary system of heating has been adopted in order to enable the steam heating to be closed down in summer.

The Special Ward Block is in many respects similar to the other wards in its internal arrangement. The ground floor contains two wards of 14 beds each, assigned to male and female eye patients respectively. The first floor contains similar wards for Ear, Throat, and Skin patients, male and female. In addition to the usual accessory rooms there is on each floor a special Operation Theatre, with Anæsthetising Room and Wash-up, and an Examination Room in connection with the special wards. A more detailed description of these will be found in the section dealing with the Operating Theatres. In this block there is only one sanitary tower in connection with each ward, the bathrooms being incorporated in the central portions. Sun balconies are placed at the southern end and along the west side of each ward.

OPERATING THEATRE BLOCKS.

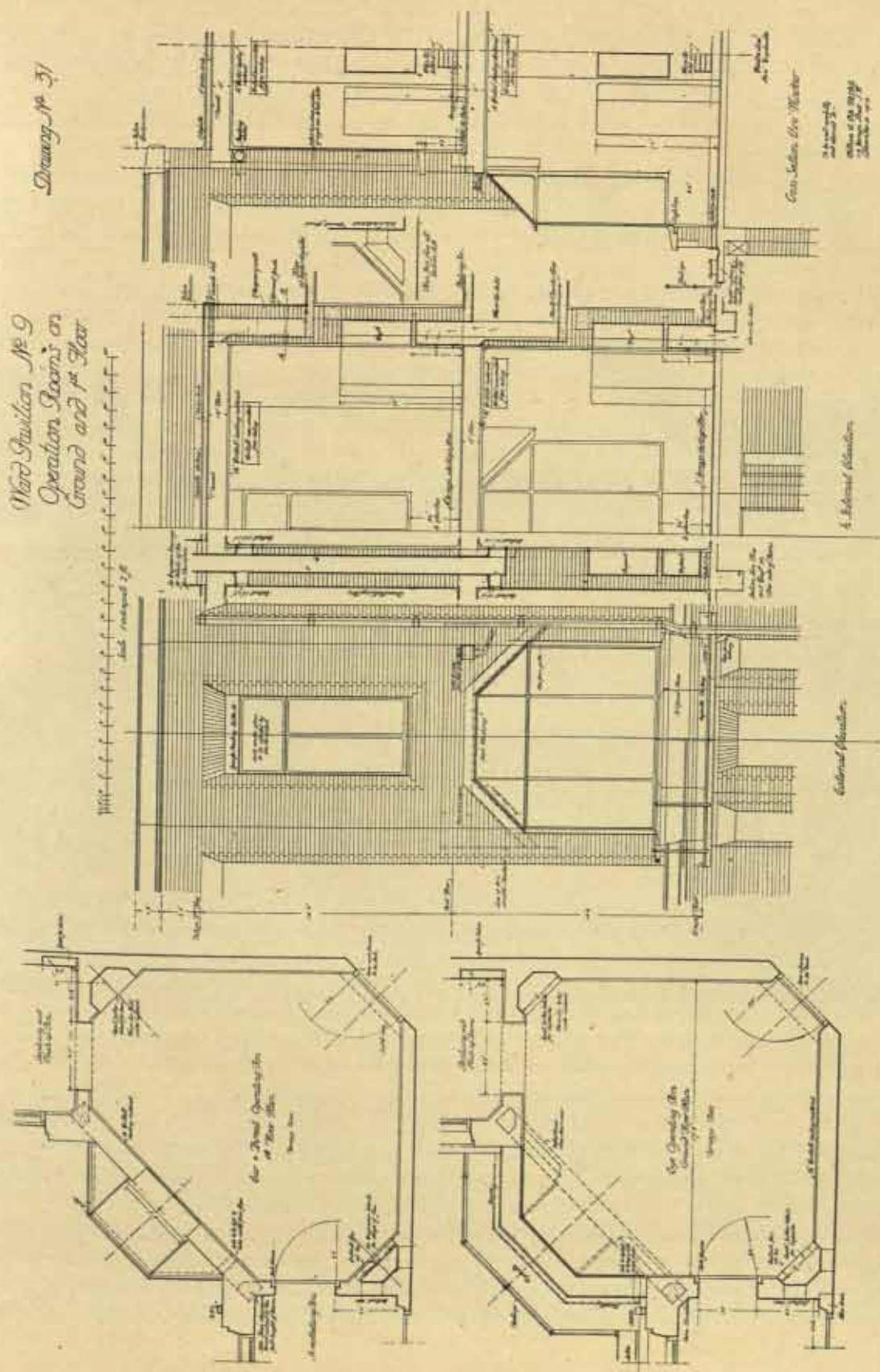
The Operating Theatre Blocks, two in number, are placed on the north side of the main corridor, equally convenient in access from the wards and the Administration. Between the blocks is a staircase and bed-lift, intended solely for use in connection with this department. The Theatre Blocks themselves are separated from the main corridor, the larger one being reached by two bridges and the smaller by a single bridge. They each contain two operating floors and a basement floor. The larger or eastern one contains two General Theatres, and the smaller one a Gynæcological Theatre on the first floor and a General Theatre on the ground floor (ward floor levels). The privacy of the Theatre Blocks as regards their position has been before alluded to, whilst at the same time there is no building near enough to overlook or to interfere with the lighting.



Drawings of Large Operation Block.

Drawing No 31

Ward Pavilion No 9
Operation Rooms on
Ground and 1st Floor



The Plan [p. 263] shows better than any description the internal arrangement of these departments. In the large Theatre Block there is a Surgeon's Room, with a small bathroom opening off it, fitted with a shower bath and lavatory basin. The Operating Theatre itself is reached through an Anæsthetising Room, and the patient is removed through a Recovery Room. It is interesting to note, however, that in practice the patient is generally conveyed straight back to the ward to recover from the operation in bed, so avoiding a second moving. The Wash and Sterilising Room is reached through a Dressers' Room, and is only separated from the theatre by a wide opening, no doors being fitted. The Spectators' Gallery is separated from the floor of the theatre by a low barrier, and is reached from a separate entrance.

It is, perhaps, in an Operating Theatre that the extreme requirements of hospital finishing receive the fullest attention. In the Operating Room itself the finish allows of absolute cleanliness. The floor and gallery seating are of terrazzo, and the walls and ceiling finished in enamel paint. The windows are flush, and the doors are of flush hardwood with metal frames. No pipes or radiators are visible. The heating of the block is twofold. The Wash Room, Operating Room, and Gallery have inlets from a heater box from the basement, and the air before passing through this is filtered through screens. Extracts in the ceiling connect up with a duct, and a fan over the bridge pulls the air from this. The duct is also connected with the other rooms in the block, but these rooms are warmed by radiators. In the three above enumerated rooms, most intimately connected with the operation, which perhaps may be more properly considered as one room, a system of panel heating is installed. A series of pipes, through which flows a circulation of hot water, are fixed to the walls and ceilings and embedded in Durato. Calorifiers in the basement convert this hot water from the steam main, and a series of valves contained in a glazed cupboard provide means of regulating the heating. All internal and salient angles are, of course, well rounded, and the whole theatre can be hosed down if required.

The sanitary fittings—sinks and basins—in the Washroom are of a special type, which have been evolved as being considered more suitable for theatre use than the special fittings used elsewhere throughout the hospital. A description of these will be found in the section dealing with the sanitary fittings in detail. To these fittings elbow operated sprays with mixing boxes are installed. Glass shelves and porcelain slabs are fixed with the utmost regard to cleanliness, and a series of sterilisers and a metal-framed instrument cupboard, recessed in the wall, complete the main equipment of the room. The artificial lighting is supplied from wall brackets, and a large adjustable lamp can be swung in any position over the patient.

The large metal windows, with splayed sides and top, are flush inside, and give an ample and steady illumination. The lower portion of the glass is obscured. The framing has been so arranged that double glazing can be installed should there be any trouble from condensation arising from the radiation attendant upon such a large sheet of glass.

In each block the upper theatre is slightly smaller than the lower one, thereby providing a top lit portion of window to the lower theatres. A gallery runs round the outside of the building on each floor, providing access for cleaning the windows and fresh air screens.

In the basement, besides the engineering fittings above enumerated, is, in the large block, accommodation for the theatre sister, with rooms for dressings, etc. Provision is also made for an Instrument Workshop. The so-called basement is really all above the ground level, but the nomenclature of the floors in the Ward Blocks is followed in the case of the Theatre Blocks. The theatres in the special Ward Block are finished in a similar manner, the panel system of heating being again used.

The Ophthalmic Theatre has a bed-space under the window so that the head of the patient can be brought immediately under the light. The Throat and Ear Theatre and accessory rooms above are glazed with deep amber glass, a requirement of the specialist in charge of this department. Both these theatres are provided with flexible wood lath outside blinds, which are light-tight. These are operated from the inside.

OUT-PATIENTS' DEPARTMENT.

The Out-patients' Department, conveniently situated close to the trams and main traffic route, is to a great extent isolated from the rest of the building. It is designed to cope with a large number of patients, and it was of vital importance that these should not interfere with the working of the rest of the hospital.

The nucleus of the plan is the large waiting hall (93 feet by 42 feet). On either side of this, separated from it by top-lit corridors, range the various departments with their consulting rooms. There are also consulting rooms at one end of the hall, accessible from the corridors, and beyond these is a third corridor, linking up the other two, and joining them to the Dispensary. Thus the patients pass from the waiting hall to the consulting rooms, progressing thence to the Almoner and Dispensary, and by a short exit corridor leave the building without having retraced their steps. By this means a steady stream of patients is maintained in one direction only, and confusion and congestion are avoided.



Out-patients' Entrances (Courtyard No. 1).

The position of the entrance courtyard has been described. The main entrances to this department are two in number, under the glass shelter roof. They are for men and women, and have lavatory accommodation in immediate proximity. The patients then pass into an entrance lobby in which are registration offices, leading directly into the waiting hall where the patients' seats are arranged in series opposite the several doors to the various departments. A small buffet, in the centre of the hall, provides refreshment for the waiting patients, further lavatory accommodation being placed at the west end. The hall itself is lined with buff terra-cotta, the floor and cove skirting being asphalt. It is lighted by large lunettes at the ends and at the sides in the segmental ceiling. An extract trunk with fan is contained in the roof, and fresh air is brought in to the radiators through regulating inlets from an air duct below. The corridors prevent direct perfilation of air between the crowded hall and the consulting rooms.

On the north side are the surgical consulting rooms and the Ophthalmic Department, each with an operating theatre contained in the end turrets. The finishing of these theatres is not so elaborately simple as that of the principal theatres, being used only for minor operations. The Ophthalmoscope Room can be darkened at will, and the walls and partitions of the examination cubicles are finished in black cement in such a manner that they can be used as blackboards for making diagrammatic notes of the case under observation. The cubicles are planned so that the lamp in the opposite cubicle does not incommode the patient.

On the south side of the hall are the Children's, Medical, and Throat and Ear Departments. The former has a separate entrance from the outside leading to a room set apart for whooping-cough cases. The Throat and Ear Department has its own operating theatre and a recovery room, which in this case is much used. The patients, after their operation, are carried on short-legged stretchers and left in this room to recover from the effects of the operation. The room is provided with a range of sinks supplied with cold water and placed at a level most convenient to the patients on the stretchers. There is also a teaching room, with an inlaid Durato scale in the floor, used for aural testing purposes. The windows of the large consulting room and the theatre are glazed with yellow glass. The Gynæcological Department is between the hall and the end corridor, the examination room being divided into three compartments and well provided with changing boxes, so arranged that patients come and go without confusion.

The various departments are subdivided to meet the special requirements, the consulting rooms generally being divided up by partitions forming examination rooms or cubicles and dressing boxes. The requirements of the Ear and Throat Department are met by open examination stalls placed around the walls of a large hall.

The floors of the consulting rooms are of Durato, and the rooms are amply warmed by radiators, where placed on inside walls fresh air being brought to these through the ducts. Extract air trunks formed of concrete on the flat roofs, connected with fan houses, ensure adequate circulation in the system of ventilation. On the south side, on the first floor level, with a staircase at either end, are placed the Dental Department, the exit staircase communicating direct with the dispensary hall, and Almoner's Department, thus bringing the patients from the department into the regular flow before described.

New patients have to interview the almoner, whose department is parallel to the Dispensary and communicates with the waiting hall of that department. This waiting hall has an arrangement of seating which distributes the patients to the three serving hatches, and permits the regular progression towards the exit without overcrowding and confusion.

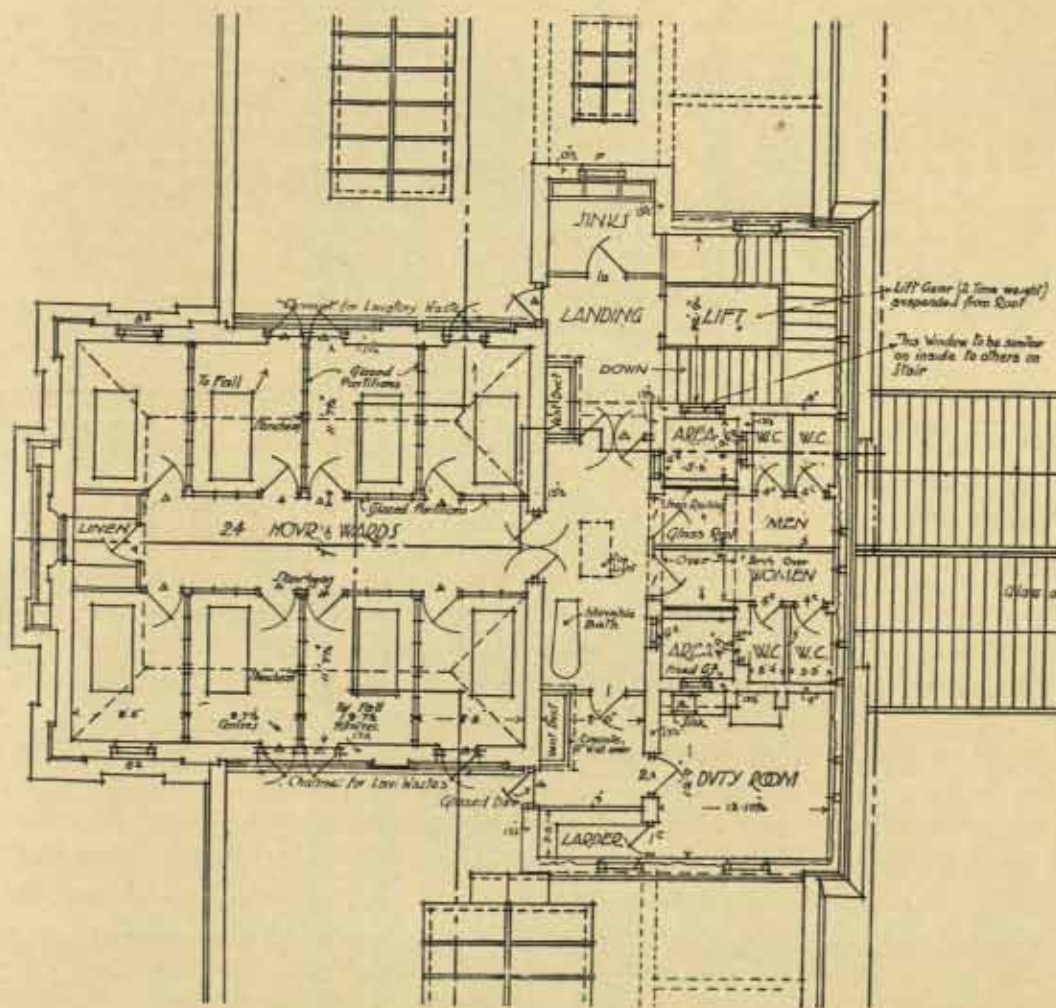
DISPENSARY.

The Dispensary Block links up the Out-patients' Department with the main hospital corridor, thus serving both in and out-patients with equal facility. The latter, of course, do not penetrate this department further than the waiting hall. The large dispensing room serves this hall through the three hatches before mentioned, and enables two dispensers, working at each hatch, to cope with a large number of prescriptions with the minimum delay. On the other side of this room is another hatch, where medicines, etc., required for the wards are served out to members of the staff. Beyond this room are a teaching room and the dispensers' office and quarters. A staircase and hand-power lift communicate with the extensive dispensary stores below in a well-lit basement. Here there is also a laboratory, soda-water plant, etc. These stores open on to the courtyard between this block and the Administration before described as the main goods entrance and delivery yard of the hospital.

CASUALTY.

The Casualty Block, placed at the corner of Bessemer Road and Denmark Hill, has its entrance opposite those of the Out-patients' Department, and from the same courtyard, connected with them by

a glass shelter roof. On either side of the entrance vestibule are w.c.'s for men and women. Beyond this vestibule is the Casualty Waiting Hall (34 feet by 30 feet), finished in the same manner as the out-patients' waiting hall. A porter's office commands the entrance to this department and also the waiting hall. On either side of the central waiting hall are the medical and surgical consulting rooms, divided into five and four examination cubicles respectively. A separate entrance is provided for ambulances, and in the case of severe casualties the patient can be attended to in an accident bay, without being brought into contact with the work of the consulting rooms. Two isolated rooms, with



Plan of Observation Wards in Out-patient Department.

entrances from the courtyard, a padded room, nurses' room and medical officer's room, provided with separate lavatory accommodation, complete this department.

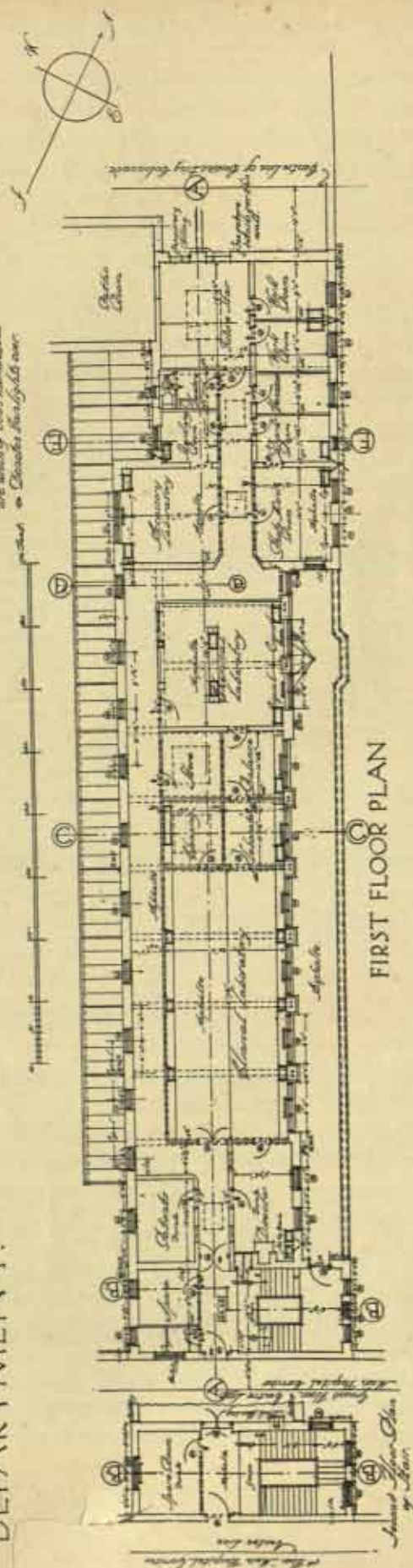
In proximity to the entrance a staircase with bed-lift communicates with the observation or 24-hour ward, placed over the casualty waiting hall. This unit, complete with ward, kitchen and larder, sinkroom and lavatories, is intended for the nursing of doubtful cases before their eventual disposition and character are decided upon.

Eight cubicles (approximately 12 feet by 8 feet) are disposed on either side of a low corridor, with doors to the corridor and to the flats outside. The dividing partitions are glazed to within 4 feet of the floor, enabling the cubicles to be nursed from either side, and at the same time providing observation

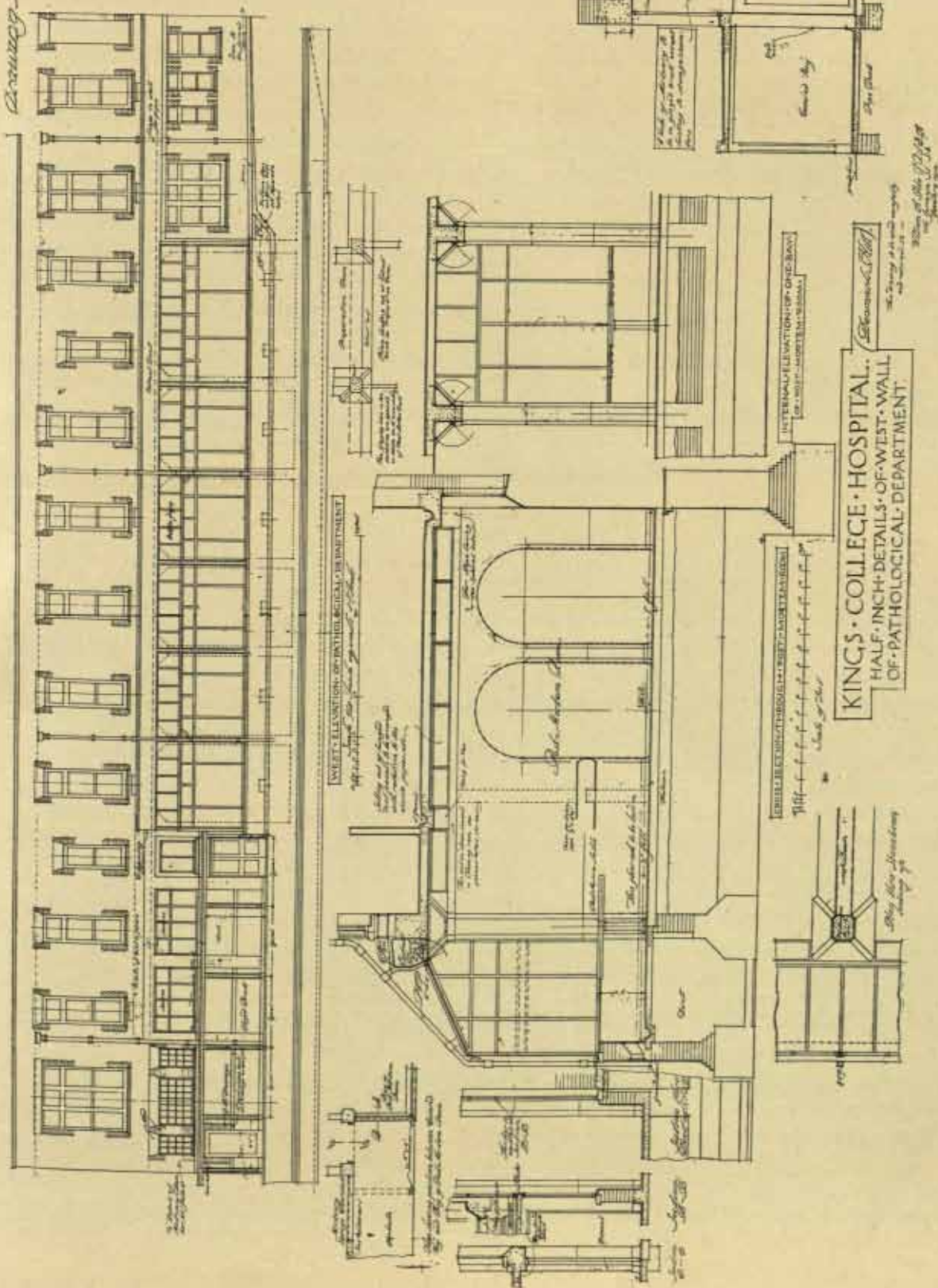
PATHOLOGICAL
DEPARTMENT.

NOTES
to all reported cases
and, including in large
and separate drawings
Differences in drawings
are with of down numbers
• Double numbers are

DRAWING No 1.
CONTRACT No 19.



Bringing 100



and control of the whole unit. The cubicles have clerestory lights over the corridor, and a baffle prevents the perflation of air. Emergency access to the main corridor is obtained through the Electrical Department, the latter being reached by way of the flat roof. Under the sloping way to the accident entrance a shelter for perambulators has been formed for those using the Out-patients' and Casualty Departments.

BATHING AND MASSAGE—ELECTRICAL DEPARTMENT.

The Bathing and Massage Establishment and the Electrical Department are placed in a block connecting the Out-patients' and Casualty Departments with the main Hospital corridor, the Electrical Department being placed on the first floor and the Bathing and Massage on the ground floor. The entrance to these is placed at the south end of the patients' entrance courtyard, directly opposite the porter's lodge. A vestibule connects this entrance with a corridor joining the Out-patients' and Casualty Departments, and from this another corridor links up with the main Hospital corridor, where a staircase and bed-lift provide access to the upper floors. This entrance is for in-patients and their friends, and the department contains various rooms for massage and medical baths.

The Electrical Department is reached from a stair with lift in the Out-patients' Department, and communicates with the main corridor in a similar manner to the Bathing Establishment. In it are installed a large room for electrical treatment, a radiograph room with attendant dark rooms, and a large Gymnasium for various exercises. This department is planned to be accessible with equal facility for both In-patients and Out-patients.

PATHOLOGICAL BLOCK.

The Pathological Block and Medical School may be considered in detail together. To a certain extent they are inter-communicating, and on plan and in operation they are intimately associated. The Pathological and Post-mortem Block is entered from the main Hospital corridor on both floors. The ground floor is devoted to post-mortem and mortuary purposes, and the first floor to pathological laboratories, &c. On the ground floor, arranged in suite, are a large Post-mortem Room, containing three tables, with provision for additional ones in the future, a Class room and a Preparation Room. A large projecting range of metal-framed windows with top light, glazed with obscured light, runs the whole length of these three rooms on the west side, which, together with the clerestory lights over the mortuary corridor, gives ample and steady illumination. The tables are of an excellent pattern, revolving on ball bearings, and are well drained, the sinks, basins and other fittings being arranged along the walls. The floor is of terrazzo. The corridor above alluded to as the mortuary corridor is a low sloping passage leading to the mortuary, small chapel and friends' waiting room. It provides the means of communication to these departments from the main corridors, and is quite dissociated from the Operative Post-mortem Rooms. The Mortuary contains three storage chambers for bodies, which are kept at a low temperature by means of cooled brine pipes circulating from the central station. This Mortuary communicates directly with the P.-M. Room on the one side and the Mortuary Chapel on the other. Friends enter this chapel from an adjoining waiting-room. The chapel is finished in a simple decorative manner, with a mosaic floor and coffered ceiling. The painted decoration to the walls has been carried out by Mr. McDonald Gill.

The Pathological Department on the first floor contains clinical and chemical laboratories, with subsidiary laboratories for research work. There are also Cleaning, Sterilising and Balance Rooms, Works Rooms, Photo-micro and Dark Rooms.

(To be continued.)

ARCHITECTURAL TRANSFORMATION.

By E. ARDEN MINTY [F.].

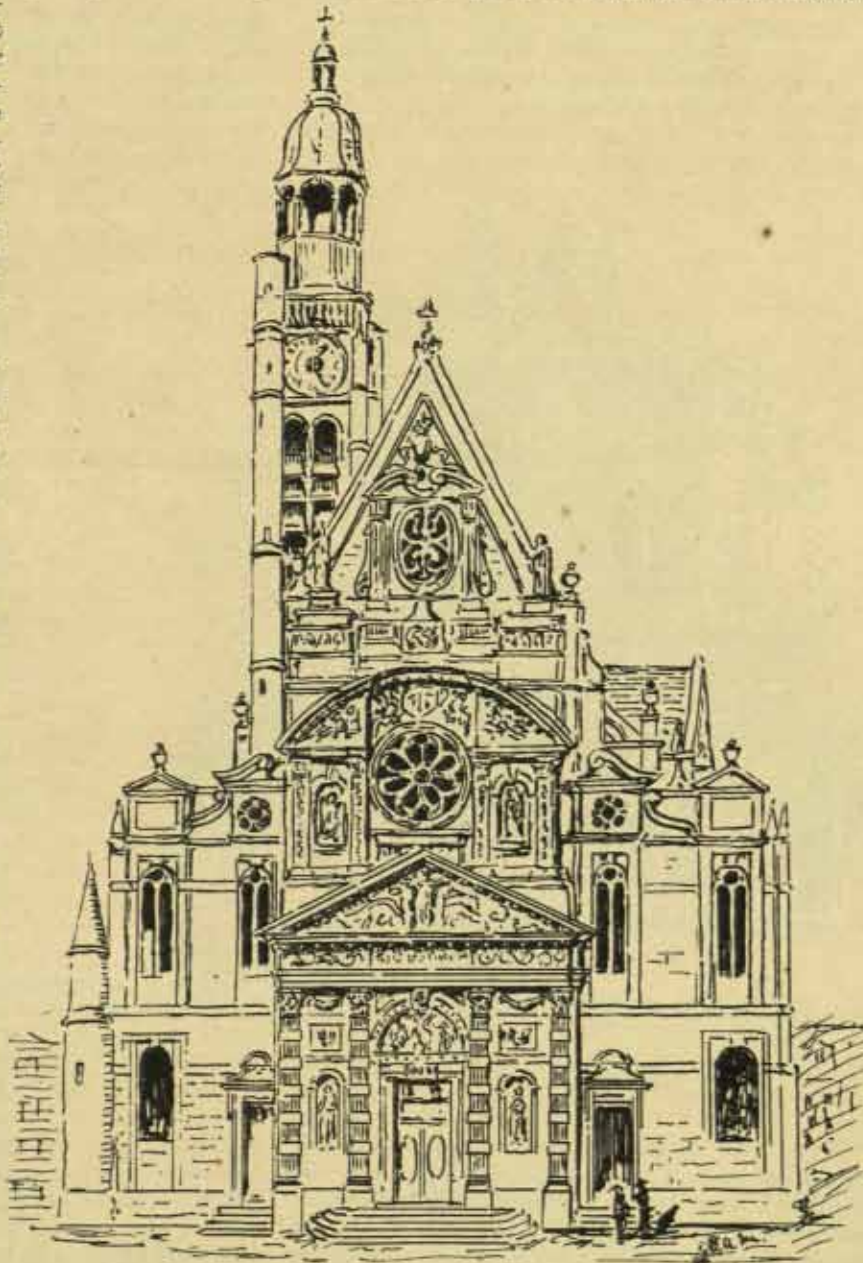
THE effect of the Renaissance on English architecture, more especially in its earlier days, was not so much a sudden breaking away from existing forms and established traditions, as an attempt to adapt them to the new taste or fashion; that is, some endeavour was made to reduce Gothic mouldings to the Classical rule. This is particularly noticeable in the case of string-mouldings, cornices, etc., of the later sixteenth and earlier seventeenth-century work, though more strongly marked in the latter period.

The object of this article is to draw attention to some of the results attained by this transformation process where it has been partially or wholly carried out. A few years ago there was a clever drawing, by Mr. H. H. Statham, published in *The Builder*, of the west front of Peterborough Cathedral, interpreted in the terms of Roman architecture, which gives a fair idea of what would have been the result had not a check occurred to the fashion.

What has been termed "the debased style of English architecture" seems to be only the logical outcome of a desire to get rid of the confused and superabundant ornament of the later Perpendicular or, in France, the Flamboyant style, so as to prepare a way for the substitution of more Classical details, and, in marked contrast to the restlessness of later Gothic ornament, where in some cases scarcely a square foot of wall surface remains unoccupied by panelling, niches, etc., to provide plain surfaces of masonry, confining the ornament to cornices, string-courses, and surroundings of windows, doorways, or other architectural features.

At first there appears to have been no attempt to alter the general plan or arrangement of the accepted type of building, be it ecclesiastical or domestic.

Thus we find the earlier Elizabethan houses retaining the old plan with but little change, but approaching in detail more nearly to what was at that time con-



L'église St. Etienne-du-Mont, Paris.

sidered Classic or Roman work. This is particularly noticeable in the doorways and internal fittings generally, and we find chimneypieces designed entirely with Renaissance details, but the stone opening still retaining the flat-pointed arch of the previous period.

One result of this custom was, that when any part of a building became decayed and required renewing, the practice seems to have been to rebuild the decayed portion in the new, or Classical, style, regardless of its incongruity with its surroundings. In this, however, the builders were only following the precedent set by their Gothic forerunners, who, whenever they had occasion to repair or rebuild a portion of an existing building, invariably did so in the style prevailing at the period, equally regardless of the work of former generations.

Not content, however, with confining their practice

moved, and replaced by marble arcades, largely founded on the remains of Roman triumphal arches.

Although attempts were made in many places in England to carry out this transformation of a Gothic into a Renaissance church, there are not many cases in which it has been done on anything like the scale which has obtained in France, for example, excepting in the case of entirely rebuilding.

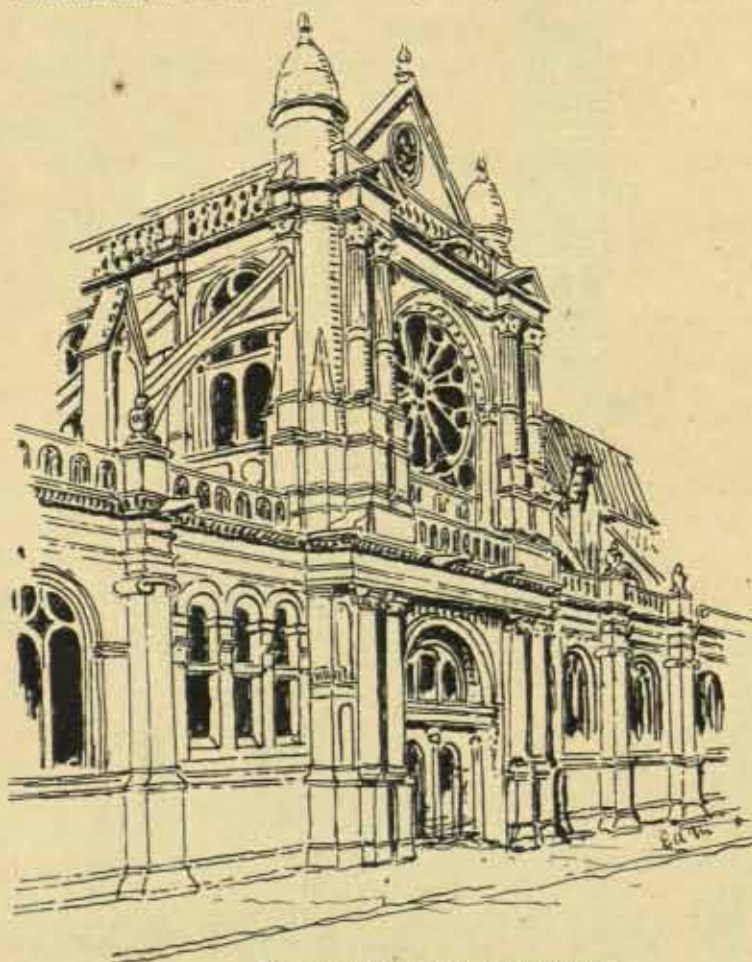
The Church of St. Étienne-du-Mont, at Paris, affords an example of a fairly complete transformation, especially as regards the west front, where, while retaining the outline of the former façade, scarcely a detail remains of the original work. In this case, however, the Gothic spirit still seems to pervade the whole conception, and no one can look at it without feeling convinced that it is only a Renaissance veneer over a Gothic skeleton. In contrast to this, I will call attention to Inigo Jones's west front of old St. Paul's Cathedral, from which every trace of Gothic feeling has disappeared.

The Church of Notre-Dame, at Le Grand Andely, Normandy, is a very striking and useful example of this transformation, the whole of the north side having been transformed. The buttresses become attached columns; the pinnacles, urns, the pointed arches of the windows, doors, etc., semicircular. Inside this aisle, at the entrance to the transept, finding it inconvenient to make the pointed arches circular, they have been converted into elliptical openings, and suggest the outline of an egg with the smaller end uppermost, which has a very unpleasant effect.

The south side of this church remains in its former condition, the transformers, fortunately, from lack of funds or some other cause, not having been able

to treat it in a similar manner to the north side. This is a particular cause for satisfaction, as by comparing the two one gets a good idea of the method pursued by the architect. As will be seen by referring to the two sketches, all the main lines and divisions in the Gothic elevation, both vertical and horizontal, are retained in the Renaissance front, and yet the horizontal lines seem to predominate in the north, and vertical lines in the south façade.*

* These sketches do not pretend to any great accuracy of detail, but are sufficient to give an idea of the general appearance of the buildings.



North Side of Church, Le Grand Andely.

of the new-found style to necessary repairs and alterations, there was a longing to convert the whole of the existing building, be it cathedral, chapel, or dwelling-house, to the prevailing taste. Thus we find many churches in which the attempt has been made by cutting away the projecting mouldings, buttresses, etc., and substituting Classical entablatures, pilasters, etc. The tracery was cut out of the windows, and plain circular-headed openings took their place. The open-timbered roofs were lathed and ceiled, Gothic carved stone, and wood, screens re-

I may express an opinion here that it is very fortunate that during the height of the Gothic revival no attempt was made to restore the north side of this church to its former condition, though in this case it could have been done with almost absolute accuracy by simply copying the south side. A case where perhaps such a restoration might be desirable is in the choir of Chartres Cathedral, where the mouldings of the arches have been obliterated, and a flat soffit substituted, ornamented with square coffers; added to this the columns have been painted to imitate marble; the whole thing having no merit in itself, and greatly marring the general beauty of this, one of the finest Gothic cathedrals in the world.

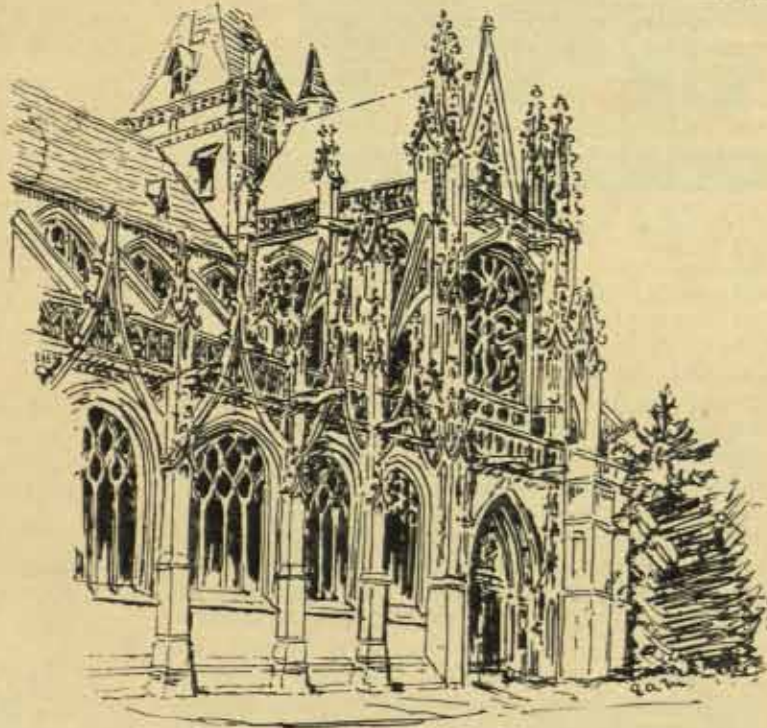
The Romanesque, or, as we generally call them, the Norman churches, do not appear to have been experimented upon to the same extent. This is no doubt partly owing to the fact that they already possessed round-headed openings, and the buttresses in most cases are little more than pilasters, in consequence appearing more like their Roman prototypes than the later pointed architecture. The towers of the Abbaye-aux-Dames at Caen, however, have wonderful parapets of open work, supported by consoles, which were added during the period I am discussing. Perhaps one of the finest examples of this Renaissance work, following the general lines of later Gothic, is the apsidal end of the Church of St. Pierre, at Caen. The groining of the chapels, with elaborate pendants, has an exceedingly rich effect.

A fairly complete attempt was being made by Inigo Jones, before the Fire, to transform St. Paul's Cathedral, London. He had built a Renaissance exterior to the west front, transepts, nave, and aisles, and added a Corinthian portico. The result, to judge by the contemporary drawings we possess, was far from satisfactory, and it is, I think, a mercy that the whole building was destroyed in the Great Fire. Sir Christopher Wren would certainly have continued the work of transformation, and we would now be in possession of a Gothic cathedral, deprived of nearly all its charming characteristics, and clothed in a shell of somewhat uninteresting Classic details, instead of, perhaps, the finest Renaissance church in the world.

It is interesting to observe how intensely Wren detested anything resembling what he called "the crinkle-crinkle Gothic." At St. Clement Danes, in the Strand, finding, we presume, that the existing Gothic tower was stable, he did not pull it down when he rebuilt the body of the church in 1682-4, but he clothed it in a Renaissance shell, converting

the buttresses into pilasters resembling attached obelisks. Still, in this case he has not altogether destroyed the Gothic feeling, as it is fairly obvious to a casual observer that there is something Gothic about the general style of the lower stages of the tower. The spire and upper stages were added by Gibbs at a later date.

On examining the western towers at Westminster Abbey, we cannot help the conviction that the architect had a task with which he was clean out of sympathy. Little attempt seems to have been made to transform the Abbey in accordance with the prevailing taste, and he appears to have done his best to design in what he thought was the Gothic style; but even here he could not offend what was



South Side of Church, Le Grand Andely.

considered the canons of good taste, so far as to copy the surrounding Gothic mouldings and details, but substituted Classic mouldings, broken pediments, and floral festoons. The result is highly unsatisfactory, and it has always been a marvel to me that the upper stages of these two towers were not pulled down during the height of the Gothic revival, and modern Gothic towers erected in their place, and (I am almost afraid to say it at the present time) I am not at all sure that it would have been an undesirable event.

These towers have been so often erroneously attributed to Wren, that it may be worth while to recall the fact that he was appointed Surveyor to the Abbey in 1697, and died 23rd February 1723. Ralf, in *New View of London*, said: "About 12 years after Wren's



Inigo Jones's West Front, Old St. Paul's.

death there is a rumour that the Dean and Chapter still design to raise the towers." E. Beresford Chancellor, in *Lives of the Architects*, writes: "On the death of Wren, Hawksmoor succeeded him as Surveyor of Westminster Abbey, and it was from his first design that the two western towers were completed, probably by John James." The work seems to have been done about 1740-2. Hawksmoor died in 1736, so everything points to the probability of their having been carried out by John James, and possibly from his own designs. At any rate, it seems evident that they were not Sir Christopher Wren's. John James was the architect of St. George's, Hanover Square.

A final stop was put to this craze for converting Gothic into Classic edifices, by the Gothic revival, which may be said to have taken birth from the stucco Gothic castle erected at Strawberry Hill by Horace Walpole.

Although it is now the fashion to cry down the Gothic revival, I am convinced that we owe the preservation of a great part of our mediæval architecture to this movement. Had it not taken place, one trembles to picture what by this time would have been the result, had the transformation process with our churches been allowed to continue

unchecked. Though the architects of the earlier days of the Gothic revival undoubtedly did destroy much valuable work, I believe they stopped a still greater destruction. However, Classic and Gothic revivals (using the terms in the sense in which they are generally understood) are now dead, let us hope never to have another resurrection. Under new conditions, and having, I trust, got rid of the habit of labelling our efforts as "styles," we may look forward to better results, though there are signs which seem to threaten the revival of yet another "style," I am sorry to say, for our ecclesiastical buildings; I allude to that called Byzantine, for which the new Roman Catholic cathedral at Westminster must be held largely responsible.



Church of St. Clement Danes, Strand, W.C.



9 CONDUIT STREET, LONDON, W., 3rd April 1915.

CHRONICLE.

R.I.B.A. Record of Honour: Eighth List.

Killed in Action.

DOWSETT, THOMAS WILLIAM: Sergeant Hon. Artillery Company—killed in the trenches between Ypres and La Bassée, 30th January.

Mr. Dowsett, who was twenty-three years of age, had only recently been admitted Student of the R.I.B.A. Having produced the evidence required by the Board of Architectural Education as to his education and training, he was exempted from the Preliminary and Intermediate Examination, and was registered as Student R.I.B.A. last June. He had passed through the Architectural Association four years' course, and had studied at the Atelier. He was assistant in the office of Mr. Leonard Stokes.

On War Service.

Subjoined is the Eighth List of Fellows, Associates, Licentiates, and Students R.I.B.A. now on service in connection with the War, bringing the total up to 480, consisting of 34 Fellows, 223 Associates, 93 Licentiates and 133 Students.

FELLOW.

Lines, Roland W.: Lieut. 49th Infantry Regt. (Canada).

ASSOCIATES.

Crane, Lionel F.: 2nd Lieut. 2/5 Reserve Bn., R. W. Surrey Regt.

Dalglish, Kenneth: 2nd Lieut., 4th Leicester Regt.

Ferrier, J. S.: 2nd Lieut., 10th Northumberland Fusiliers.

Hobson, J. Reginald.

Lodge, T. A.: 2nd Lieut., 24th Bn. County of London.

Lovell, Percy: Artists' Rifles.

Meadows, S. Douglas: Lieut., 8th Royal Sussex.

Searle, Norman: Sub-Lieut., Royal Motor Boat Reserve.

Stanton, Stephen J. B.: 3rd Bn. 28th London (Artists').

LICENTIATES.

Carswell, Ronald: 2nd Lieut., 11th Royal Highlanders.

Coleridge, J. D.: R.N.V.R.

Robertson, J. D.: Sapper, 2nd London Div. R.E.

STUDENTS.

Coleridge, P. H.: O.T.C.

Filkins, Edwin W.: R.A.M.C.

Garner, P. T.: R.A.M.C.

Jones, W. G.: 2nd Bn. Queen's Westminster Rifles.

Penderel-Brodhurst, B. R.: 13th County of London Regt.

Mr. W. Howe-Greene [F.], of St. John's, Newfoundland, writes under date 10th February:—

I was much interested in the last issue of the JOURNAL just received to see the lists of Members and Students of the R.I.B.A. who are now giving their services to the "dear

Home-land" in her time of stress. As an old Liverpool Volunteer and marksman, I too have been Chairman of our Musketry Committee out here, since the War began, for the training of our Newfoundland Contingents, besides attending regularly as a Musketry Instructor on the ranges—and the weather has been zero lately! As the only representative of the R.I.B.A. in England's oldest and most loyal Colony, it may be of interest to you to know that in the "outposts of Empire" we are trying to do "our bit."

Mr. Pite's Paper on King's College Hospital.

Mr. W. A. Pite's Paper on King's College Hospital, read at the Institute on 29th March, attracted a good audience considering the times, non-member visitors being exceptionally numerous. The Council had entertained at dinner that evening some of the members of the Hospital Building Committee, including Professor the Rev. Arthur C. Headlam, D.D., formerly Principal of King's College; the Hon. R. C. Parsons, member of the College Council; Dr. John Frederick Silk, Convener of the Hospital Watching Committee; Mr. E. L. Levett, K.C., and Captain A. C. Tunnard, Secretary of the Hospital. These gentlemen were afterwards present at the meeting and spoke in the discussion. Mr. Pite, owing to the length of the Paper, did not attempt to read it, but contented himself with a description of the building, its site, plan and general arrangements, details of construction, fittings, &c., his remarks being illustrated by a lantern display of nearly one hundred drawings and photographs. A part only of the Paper is published in the present issue; the rest, with the discussion, will appear in the next. Dr. Headlam, in the course of his interesting remarks, emphasised the importance of every department being consulted before the plans of any important public building were decided upon. The Building Committee of King's College Hospital, he said, had taken the greatest care in this regard, with the result that the architect had the considered opinion of the Medical Staff on every material point. Dr. Headlam mentioned that an American expert on hospital construction, after going the round of the building, had paid them the compliment of saying that he had found 50 per cent. more foresight in this Hospital than in any other that he had seen. Dr. Silk expressed appreciation and gratitude for the very excellent building Mr. Pite had put up for them. King's College Hospital, he said, would be for many years to come a classic example of hospital construction, so that any other architect who undertook to build a hospital would first have to consider very carefully the design and arrangement of King's College Hospital.

Tribute to the late Walter Crane.

At the opening of the proceedings at the General Meeting last Monday Mr. E. Guy Dawber, Hon. Secretary, addressed the Meeting as follows:—

It is my sad duty to make the formal announcement to the Institute of the death of our dear friend and Honorary Associate, Mr. Walter Crane. He was elected to our body only three years ago, but he was

previously no stranger in these rooms; his presence could always be counted upon when the subject of art and its applications was in question. The story of his long and distinguished career as a decorative artist, designer, book illustrator, writer, and lecturer on the applied arts has been so recently told that I need not dwell upon it now. He was an artist of great individuality and far-reaching influence, holding a high place in the estimation of artists and of the art-loving public not only in this country, but on the Continent and in America. One of his greatest services to art was the foundation twenty-seven years ago of the Arts and Crafts Exhibitions Society, of which he was for so many years the esteemed President.

On the motion of Mr. Dawber the Meeting passed the following Resolution:—

That the Royal Institute of British Architects desires to express its sorrowful regret at the decease of its distinguished Honorary Associate, Walter Crane, and to place on record its high estimate of his artistic achievements, and its appreciation of his labours for the advancement of art-craftsmanship: it is also Resolved that a message of the Institute's sympathy and condolence be conveyed to his son, Mr. Lionel Francis Crane, *Licentiate*, and the other members of the family.

Mr. RICHARD GLAZIER [A.], of Manchester, writes:

By the death of Mr. Walter Crane the Institute has suffered the loss of one who, during a strenuous and comparatively long life, consistently advocated the claims of architecture and the associated arts.

Mr. Crane's remarkable literary and artistic gifts, his fertility of invention and imaginative qualities of design, his catholicity of view, his sincerity of aim and love of the beautiful, and his active interest in educational matters, have made his name familiar throughout Europe.

It was my privilege to be associated with Walter Crane during the years 1893-4-8, and I can bear tribute to his delightful and stimulating companionship, his advocacy of architecture as the basis of the arts, his high ideals of the true function and interest of fine craftsmanship, and his unremitting efforts to quicken the artistic instinct of the student to an appreciation of the beauty and significance of living things and their relation to human life and effort.

In the *Times* of the 25th March appeared the following letter addressed to the Editor, among the signatures being the President R.I.B.A., the President R.W.S., the Master of the Art-Workers' Guild, and the Slade Professors of Fine Arts at Oxford and Cambridge.

24th March 1915.

SIR,—On Friday morning last Mr. Walter Crane's funeral took place at Golder's Green. A representative gathering of his brother artists was assembled there to pay him their last tribute of admiring and affectionate regard. From that original and singularly versatile brain there is for us, alas! no more work to come. But Crane will not

be forgotten. When, by-and-by, the history of English art during the past forty years comes to be written, in that critical record his name will stand out prominently; as already for many a day it has stood in the estimation of artists generally, and the art-loving public abroad. But at the moment, in the generation that knew Walter Crane personally, there are, we feel sure, many who would recognise it as most becoming that, if possible, his ashes should be finally laid to rest beneath the roof of St. Paul's, or, at least, that space for some memorial of him should be there found, where the names of not a few of our representative artists are reverently recorded. It is because in this matter we have good reason to believe that we are giving expression not merely to our own sentiment, but to that of a large number of art-workers and of the public generally, that we should be grateful if you could find space within your columns for the insertion of this brief letter.

We are, Sir, your obedient servants,

EDWARD S. PRIOR.
ALFRED PARSONS.
ERNEST NEWTON.
H. R. HOPE-PINKER.
SELWYN IMAGE.

English Church Monuments.

Sir Charles Nicholson, Bart. [F.], writes with reference to Mr. Williams's Paper on English Church Monuments published in the last issue:—

There is a series of thirteenth-century fancy portraits of the earlier Bishops of Wells in the choir aisles there which is interesting. The remains of the bishops are in oak boxes contained in stone sarcophagi with recumbent figures on the lids: these have been moved several times during enlargements and "restorations," but they still contain the relics. The interesting fact about them is that one of the figures (Bishop Giso, I think, speaking from memory) is far superior to any of the others in execution and design: this figure has also a much earlier type of vestment and a peculiar low mitre.

The Dean of Wells read a Paper on these effigies recently at the Society of Antiquaries, and the conclusion arrived at by the audience there was that this effigy was later than the others on account of its superior technique, and that the early types of vestment and mitre were merely an antiquarian fancy. This seems to me very difficult to accept. My own notion is that it is the oldest figure of the series and the work of a master sculptor, the others being from the hand of assistants or less skilful imitators. Anyhow, the figure in question is a very fine one, and I should say as good as any of the west front figures, so far as it is possible to compare them. Most of the tombs at Wells have Douling stone effigies, but one or two of the later ones are alabaster.

Mr. Williams is very severe on modern tombs in churches, and one cannot but agree with him in the main, but there are some finely treated figures in some of them—e.g., Watts' figure of Bishop Lonsdale in Lichfield Cathedral (lying on a most incongruous altar tomb under an equally incongruous canopy, now happily removed). Temple's figure at Canterbury

and some of the altar tombs in St. Paul's Cathedral are too good to dismiss in a sweeping condemnation of everything except the Wellington monument; and Burges' wall tomb in St. Andrew's, Wells Street, is, to my mind, a valuable piece of work.

Perhaps Mr. Williams may be able to preach a crusade inducing the public to be more often content with good old-fashioned floor brasses, which hurt nobody.

Victoria and Albert Museum.

The President of the Board of Education has sanctioned an arrangement by which the bronzes presented last autumn to the Victoria and Albert Museum by M. Auguste Rodin will be lent to the Royal Scottish Academy (of which M. Rodin is an Honorary Member) for inclusion in their annual exhibition in Edinburgh this summer. The bronzes will be withdrawn from exhibition in London at the close of this month.

It is proposed that an exhibition of the work of the Serbian sculptor, Ivan Meshtrovitch, should be held in the Victoria and Albert Museum during the summer, by arrangement with the Serbian Government.

The American Institute of Architects : Canons of Ethics.

The American Institute of Architects have issued to its members the following circular of advice relative to principles of the professional practice and the canons of ethics of architects:—

The American Institute of Architects, seeking to maintain a high standard of practice and conduct on the part of its members as a safeguard of the important financial, technical, and æsthetic interests entrusted to them, offers the following advice relative to professional practice:

The profession of architecture calls for men of the highest integrity, business capacity, and artistic ability. The architect is entrusted with financial undertakings in which his honesty of purpose must be above suspicion; he acts as professional adviser to his client and his advice must be absolutely disinterested; he is charged with the exercise of judicial functions as between client and contractors and must act with entire impartiality; he has moral responsibilities to his professional associates and subordinates; finally, he is engaged in a profession which carries with it grave responsibility to the public. These duties and responsibilities cannot be properly discharged unless his motives, conduct, and ability are such as to command respect and confidence.

No set of rules can be framed which will particularise all the duties of the architect in his various relations to his clients, to contractors, to his professional brethren, and to the public. The following principles should, however, govern the conduct of members of the profession and should serve as a guide in circumstances other than those enumerated:

On Offering Services Gratuitously.

The seeking out of a possible client and the offering to him of professional services on approval and without compensation, unless warranted by personal or previous business relations, tends to lower the dignity and standing of the profession, and is to be condemned.

On Professional Qualifications.

The public has the right to expect that he who bears the title of architect has the knowledge and ability needed for the proper invention, illustration, and supervision of all building operations which he may undertake. Such qualifications alone justify the assumption of the title of architect.

THE CANONS OF ETHICS.

The following Canons are adopted by the American Institute of Architects as a general guide, yet the enumeration of particular duties should not be construed as a denial of the existence of others equally important although not specially mentioned. It should also be noted that the several sections indicate offences of greatly varying degrees of gravity.

It is unprofessional for an architect—

1. To engage directly or indirectly in any of the building trades.
2. To guarantee an estimate or contract by bond or otherwise.
3. To accept any commission of substantial service from a contractor or from any interested party other than the owner.
4. To advertise.
5. To take part in any competition which has not received the approval of the Institute, or to continue to act as professional adviser after it has been determined that the programme cannot be so drawn as to receive such approval.
6. To attempt in any way, except as a duly authorised competitor, to secure work for which a competition is in progress.
7. To attempt to influence, either directly or indirectly, the award of a competition in which he is a competitor.
8. To accept the commission to do the work for which a competition has been instituted if he has acted in an advisory capacity, either in drawing the programme or in making the award.
9. To injure falsely or maliciously, directly or indirectly the professional reputation, prospects, or business of a fellow architect.
10. To undertake a commission while the claim for compensation, or damages, or both, of an architect previously employed and whose employment has been terminated remains unsatisfied, until such claim had been referred to arbitration or issue has been joined at law, or unless the architect previously employed neglects to press his claim legally.
11. To attempt to supplant a fellow architect after definite steps have been taken toward his employment—e.g., by submitting sketches for a project for which another architect has been authorised to submit sketches.
12. To compete knowingly with a fellow architect for employment on the basis of professional charges.

Belgian Exhibition at University College.

Viscount Bryce, O.M., has consented to become President of the newly formed Belgium Town Planning Committee which has been constituted by the amalgamation of the various committees previously considering the question of the replanning of Belgium. The Committee, which is under the patronage of the Belgian Government, has Mr. Raymond Unwin [F.] as Chairman and Mr. Ewart G. Culpin as Secretary. Mr. Paul Waterhouse [F.] has been nominated by the R.I.B.A. Council to represent the Institute.

Following upon the recent highly successful conference at the Guildhall, London, the next step will be the opening of the Remaking of Belgium Exhibition, at University College, Gower Street, W.C. Lord Bryce has promised to open the exhibition at 4 p.m. on 7th April, and it will remain open until the end of the month. Mr. Frank Brangwyn has prepared a striking poster for the exhibition.

At the same time study circles of architects, lawyers, and others will be instituted for the consideration of the actual facts of Town Planning, but on the legal and technical sides; lectures and conferences will be held for municipal councillors and the general body of

the public in order to educate them in these matters. University College has kindly provided studio and office accommodation.

Money is urgently needed to carry on the work and may be addressed to the Secretary, at the School of Architecture, University College, from whom also may be obtained invitations to the opening ceremony of the Exhibition.

A Wren Relic presented to the Library.

Mr. J. M. Gething, architect, of Stourbridge, has kindly presented to the Institute a copy of Elmes' *Life of Sir Christopher Wren*, which he purchased at the sale of the contents of Wroxall Abbey nearly fifty years ago. Its value consists in the fact that it contains two pages of genealogy of the Wren family (*ante* and *post* Sir Christopher) in the handwriting of a lady, almost certainly that of the wife of Christopher Roberts Wren and mother of the last Miss Wren, who married Mr. Chandos Hoskyns. It also contains two book-plates, one of them the arms and name Christopher Roberts Wren, and the other having the same arms and the wife's quartered, and the name Anne Wren. This latter book-plate was pasted over the former, covering it; and on its removal the under one was disclosed.

The New Zealand Institute of Architects.

The New Zealand Institute have passed the following Resolutions:—

- (1) "That this Institute places on record its appreciation of those members who have volunteered for service in the defence of their country."
- (2) "That the New Zealand Institute of Architects desires to express its emphatic and lasting condemnation and abhorrence of the ruthless and vindictive destruction and spoliation of the ancient historic buildings and treasures of France and Belgium by a savage and unprincipled enemy, and to convey to the architects and people of those countries this Institute's fraternal sympathy in the irreparable loss sustained thereby to them and to the whole civilised world."
- (3) "That this meeting authorises the Council to donate a sum of £50 to the Belgium Relief Fund."

The New Clerk of the London County Council.

Mr. James Bird, Deputy Clerk of the London County Council, has been appointed to the office of Clerk of the Council in succession to Sir Laurence Gomme, who has retired. Mr. Bird has been in the permanent service of the Council and its predecessors since 1881, when he was appointed in the fourth class, after examination. He has been Deputy Clerk since 1905.

Books received.

Modern Illuminants and Illuminating Engineering. By Leon Gaster and J. S. Dow. With 204 Illustrations. Demy 8o. Lond. 1915. 12s. 6d. net. [Whittaker & Co., 2 White Hart Street, E.C.]
Handrailing for Geometrical Staircases. By W. A. Scott. With 50 Illustrations. Cr. 8o. Lond. 1915. 2s. net. [Whittaker & Co.]
Town Planning, with special reference to the Birmingham Schemes. By George Cadbury. 8o. Lond. 1915. 7s. 6d. net. [Longmans, Green & Co., 39 Paternoster Row.]

OBITUARY.

Henry Seton Morris [*Associate* 1885, *Fellow* 1909], Consulting Architect to the Government of Burma, whose death was recently announced, was articled in 1885 to Mr. W. J. Wilcoxon, of Bath. In 1890 he entered the office of Mr. C. J. Phipps, and for five years from 1892 was in H.M. Office of Works. He was afterwards for a time associated in practice with Mr. Baillie Scott, and later was in the Hospital Branch of the War Office. In 1902 he was appointed assistant architect in the Public Works Department of the Transvaal, but resigned after six months, and engaged for a few years in private practice. In 1911 he was appointed Consulting Architect to the Government of Burma. His works in Burma include the Physical and Chemical Laboratories, Rangoon College, and many large Court-houses, Hospitals, Post Offices, &c. His last Report as Consulting Architect appears on pp. 19-23 of *Architectural Work in India*, 1913-14.

COMPETITIONS.

Whitehaven Housing Competition.

Members and Licentiates are advised that the conditions of the above competition are not in accordance with the Institute Regulations for Architectural Competitions, and the Competitions Committee are in correspondence with the promoters with a view to their amendment.

MINUTES. XI.

At the Eleventh General Meeting (Ordinary) of the Session 1914-15, held Monday, 29th March 1915, at 8 p.m.—Present: Mr. Alfred W. S. Cross, *Vice-President*, in the Chair; 22 Fellows (including 8 members of the Council), 25 Associates (including 1 member of the Council), 9 Licentiates, and numerous visitors. The Minutes of the meeting held 15th March 1915, having been published in the *JOURNAL*, were taken as read and signed as correct.

The decease having been announced of Mr. Walter Crane, R.W.S., *Hon. Associate*, on the motion of Mr. E. Guy Dawber, *Hon. Secretary*, it was

RESOLVED, That the Royal Institute of British Architects desires to express its sorrowful regret at the decease of its distinguished Honorary Associate, Walter Crane, and to place on record its high estimate of his artistic achievements, and its appreciation of his labours for the advancement of art-craftsmanship. It is further Resolved that a message of the Institute's sympathy and condolence be conveyed to his son, Mr. Lionel Francis Crane, *Licentiate R.I.B.A.*, and the other members of the family.

Mr. Edward C. H. Maidman, *Licentiate*, attending for the first time since his election, was formally admitted by the Chairman.

Mr. William A. Pite [*F.*] having read a Paper on Kiso's COLLEGE HOSPITAL, and illustrated it by lantern slides, a discussion ensued, and on the motion of Professor the Rev. Arthur C. Headlam, D.D., seconded by the Hon. R. C. Parsons, a vote of thanks was passed to Mr. Pite by acclamation.

The proceedings closed and the meeting separated at 10.15.



Administration Block.

KING'S COLLEGE HOSPITAL.

By WILLIAM A. PITE [F.].

(Continued from page 272.)

MEDICAL SCHOOL.

THE Medical School faces Bessemer Road, and in its general outline is similar to the Out-Patients' Department on the other side of the Administration Block, completing the symmetry of this front. The entrance is under the connecting colonnade opposite the Resident Medical Officer's entrance in the last-mentioned block. The entrance leads into a staircase hall, with ample cloak-room and lavatory accommodation in adjacent apartments. On the right a short corridor leads to the Dean's and Secretary's Offices. Opposite the entrance a corridor running through the centre of the school gives access to the Library and Lecture Theatre, and on the south side Class Rooms and a Silence Room. An extension completing the scheme is provided for in the future. This will comprise a Museum similar in design to the Library, a Dining Room, with Kitchen and Service, and various subsidiary rooms.

LIBRARY.

The Library is a spacious and lofty room with a gallery running round three sides; ferro-concrete piers carry the roof, and small octagonal columns finished in plastolith support the galleries. A flat dome, with top light and coffered ceiling, gives opportunity for a simple and inexpensive plaster treatment. Substantial bookcase fittings of Japanese oak are provided around the room in a series of bays, thereby obtaining the maximum book accommodation.

The Lecture Theatre seating is formed on a sloping ferro-concrete gallery. A series of extract pipes are arranged in the benching, connecting with an extract space communicating with a fan-chamber on

the roof. Below the upper part of the Theatre are Lecturers' and Preparation Rooms and lavatory accommodation, reached both from the body of the Theatre and from the Library. The joinery of the Theatre is executed in Kauri pine, and a platform for the Epidiascope is arranged, with wall opposite finished as a projecting screen, sliding blackboards being placed on each side.

Upstairs is a large Pathological Teaching Laboratory, extremely well lit, also various work rooms in contiguity to the Pathological Department. A small staircase leads to a room in the turret, which

is used for experimental purposes, provision being here made for the sterilisation of the cages.

ISOLATION.

In the north-west corner of the site is the Isolation Block for Infectious Diseases. The present accommodation is for four patients, and the completion of the block will bring this total up to eight. The block is reached by a covered way from the substructure of the Special Ward Block. This block, although planned upon the same principle as the Hôpital de l'Institut Pasteur, Paris, may perhaps be considered to represent an advance on the provision of this French building.

Direct cross ventilation is secured to the cubicles by keeping the nursing corridor at a lower level, whilst a baffle plate, similar to that provided in the Observation Block, prevents air reaching one ward from another. An outside verandah encircles the building, and is available both for patients' friends and for nursing lavatory basins being installed on either side outside the cubicles.



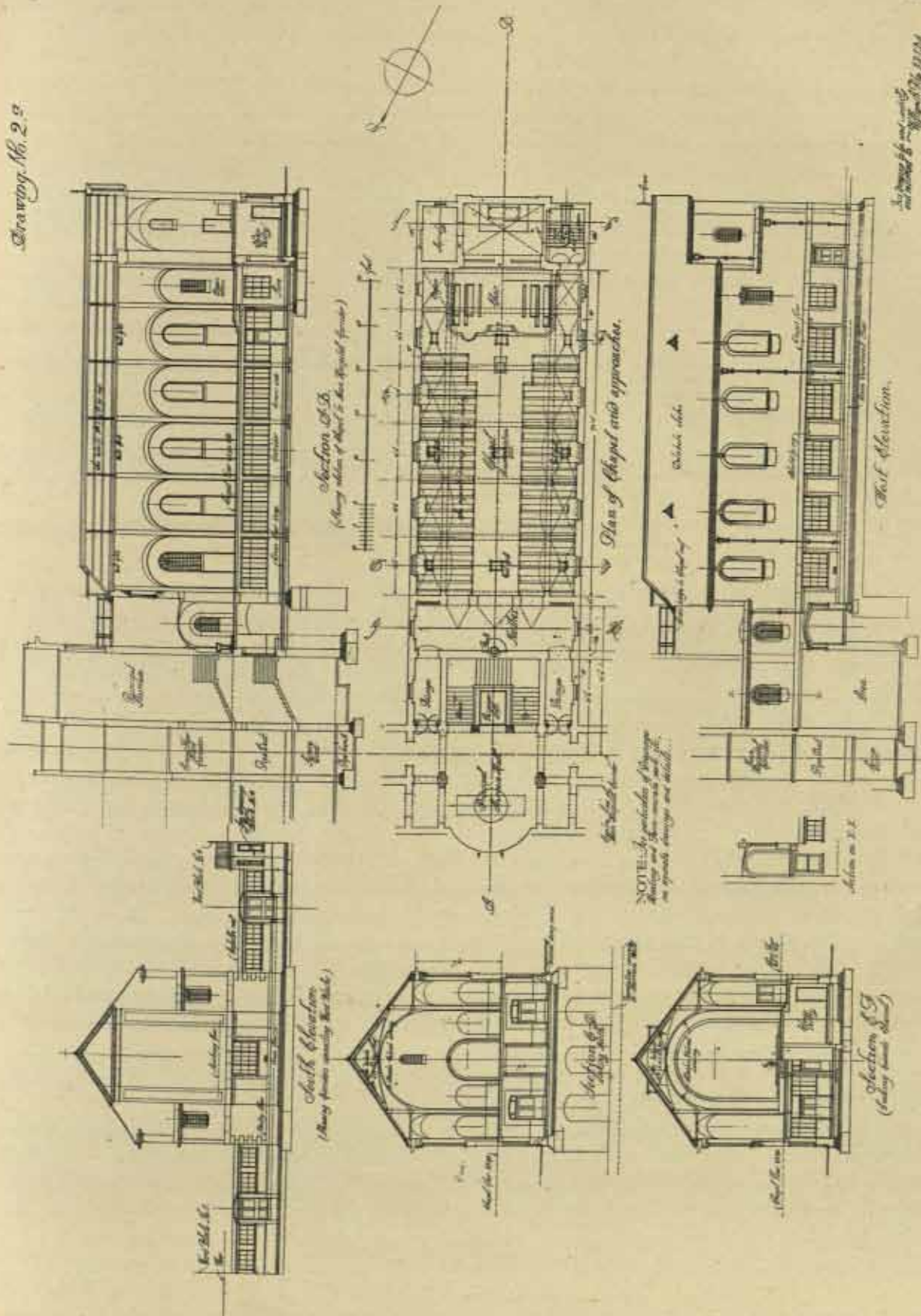
Chapel Interior.

The Sink-room, Bathroom, and Lavatory are disconnected from the main block, but accessible from the verandah.

A well-fitted Duty-room, with Larder, Linen and Blanket Stores, and a Physicians' Room complete the accommodation of this self-contained unit.

THE CHAPEL.

The Chapel is placed on the central axis of the building and is entered through a narthex behind the main staircase, on the same level as the ground floor wards. It has seating accommodation for 250, a wide central space being provided for wheeled chairs. The groined roof is supported on ferro-



The Chapel: Plan, Sections, and Elevations.

See drawing of the chapel in the plan of the Hospital square.

NOTE: The plan of the chapel is shown in the plan of the Hospital square.

concrete piers, the decorative treatment being simple and effective. The organ, pulpit, and many of the benches have been removed from the old hospital, as were the six stained-glass windows. These fittings were designed for the original chapel by Mr. Louis Ambler.

The chancel is paved with various marbles, and the altar rails are of white metal. A small sacristy is entered from the sacarium. The narthex is separated from the chapel by three arches treated in marble and mosaic, and is entered by two doors from the corridor. In a niche is placed a picture of the Descent from the Cross. This was removed from the old chapel, and is the work of a Spanish master, Juan Baptista Juanes (1523-79). The vestries are placed under the chapel, on a level with the Linen Department, and are reached by a stair.

The position of the chaplain's quarters in the Administration Block, directly opposite the chapel, has been before alluded to.

LINEN DEPARTMENT.

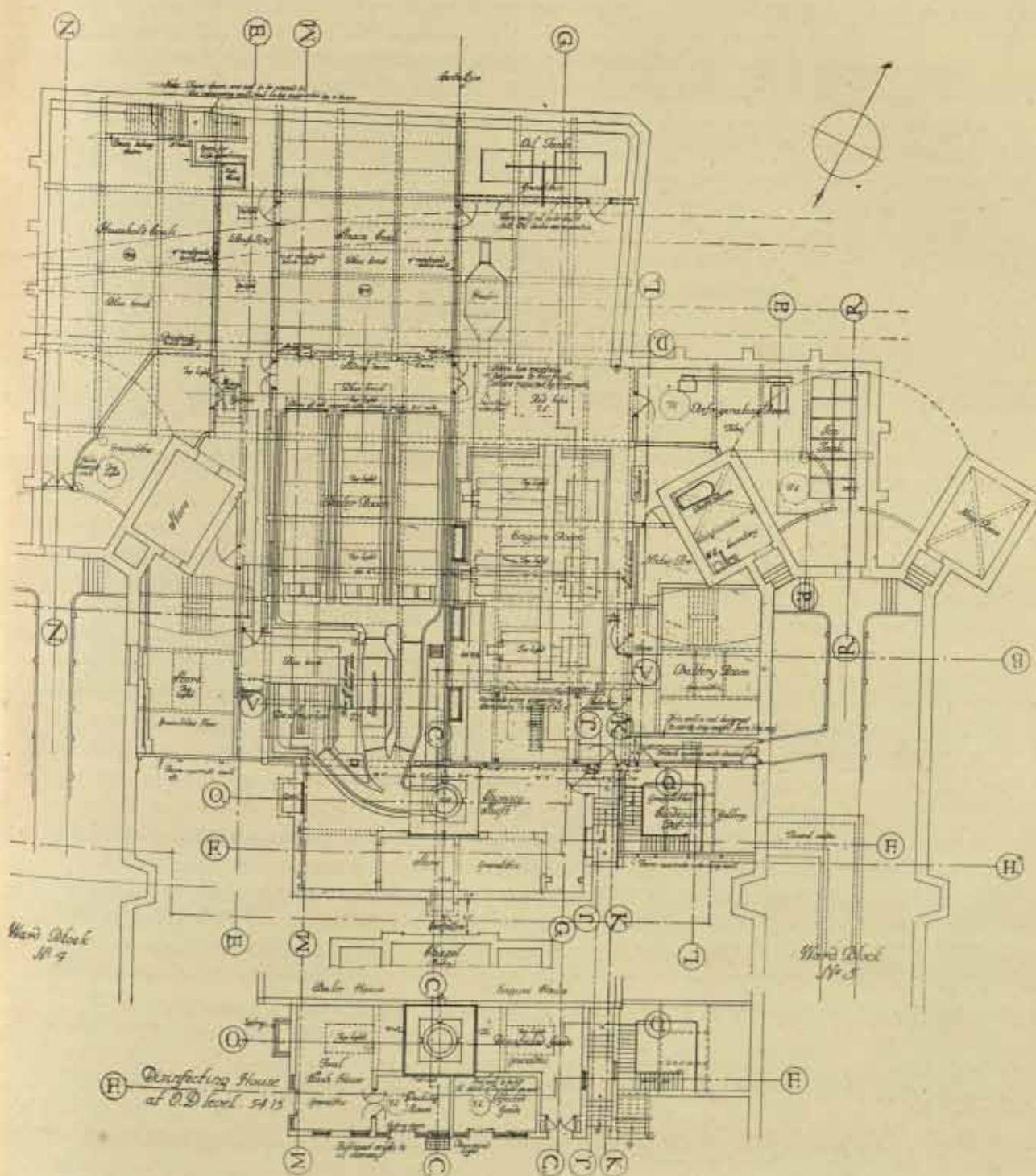
The Linen Department, under the chapel, has been mentioned in connection with its corridor forming a siding to the administrative portion of the main hospital corridor. The department is well lit and provides ample cupboard rack and counter accommodation for the sorting and distribution required. An airing room is provided, a room for uniform makers and repairs, and an office for the linen sister, in addition to the large linen and distribution rooms. Separate apartments have been provided beneath Ward Block No. 5 for the nurses receiving and distributing rooms. The hospital dirty linen is received, sorted, and dealt with in other isolated rooms beneath Ward Block No. 4.

CENTRAL STATION.

In the competitive scheme this was placed, as previously noted, in the north-west corner of the site, providing ready access for coals and stores and well removed from the wards. Many difficulties in the way of levels and drainage were here presented, and to overcome them a central position was provided. This was fixed between the two three-storey ward blocks immediately south of the chapel, as indicated by the block plan. This position has the advantage of centralising the supply and reduces the losses in distribution. Great care had to be exercised to avoid the least vibration or sound penetrating to the adjacent wards and buildings. The successful result attained in this respect is a tribute to the consulting engineers and the general construction. The whole of the accommodation, comprising boiler-house, destructors, engine-house, refrigerating plant, ice store, battery room, house and steam coals, automatic telephone exchange, condense and pump pit, stores, etc., is contained within this irregular space practically below the ground. The basements of the ward annexes are utilised as mess room and lavatory accommodation for the engineers' staff. The engine room and boiler house are 70 feet long, 30 feet wide, and 22 feet high, principally lighted from the top. These two large chambers are, however, high enough above the surrounding rooms to enable a certain amount of clerestory lighting and ventilation to be obtained. The condense pit, the floor of which is 30 feet below the ward level, is served by a tunnel constructed of arched brickwork at a corresponding level below Ward Block No. 5 and linked up with the main ducts beneath the other buildings. On a site such as this—the treacherous nature of the subsoil in this vicinity is proverbial—these works have presented considerable interest during construction. It was hoped that the flat roof space over would serve as a pleasant garden for patients' use, but this has not matured.

The boiler house, destructors, and coals are served by a sub-corridor beneath Ward Block No. 4; the engine room, together with the refrigerating plant, oil tanks, battery room, telephone exchange, with their auxiliary rooms, where dust and dirt would prove grave objections to the machinery, are distinctly separated by steel sliding doors from the former, as the plan shows, similar access being provided beneath Ward Block No. 5.

The space surrounding the base of the chimney shaft has been used for the disinfecting and fuel washing plant in separate apartments placed at the ground level and accessible from all parts of the hospital from the outside. In the foul washhouse are placed steeping tanks for disinfecting and puri-



Plan of Central Power Station.

tying the foul linen which is brought straight from the wards in sealed receptacles to which steam jets can be attached for sterilising purposes. Separate entrances and exits are provided, and the progression of the various articles towards a clean state has been the underlying principle governing the plan.

The construction of the main building is of ferro-concrete piers, with panels of 9-inch brickwork between, those to the coal stores being reinforced. The retaining walls are of brickwork.

GENERAL CONSTRUCTION AND FINISHINGS.

Economy in cost of building combined with efficiency and the economical maintenance of the structure when completed, together with immunity from fire, is the true criterion of success in a building of this character. The walls of the fabric generally are of dark, well-burnt London stocks, relieved by red dressings, Portland stone being used sparingly for quoins, cornices, &c. In the Out-Patients' Department (the first portion built) steel stanchions and joists embedded in concrete for the floors and roofs were used. The whole of the floors, flats, and stanchions in the subsequent work has, however, been carried out in ferro-concrete on the Hennebique system. The greater portion of the buildings is covered with asphalt flats, and it has been found after much experiment that a successful non-conducting blanket can be formed by laying immediately upon the concrete a layer of broken brick of small size, well punned to a thickness of about 5 inches, then screeding and asphaltting thereon. In order to avoid beams in the wards, hollow floors and flat roofs have been formed of terra-cotta arched tubes embedded in the concrete. Where roofs are used the trusses are of steel, an attempt being made to render them as fireproof as possible. The covering is of green Westmorland slates, with lead hips and ridges.

Internal partitions of hollow terra-cotta are used for plastered walls, Shepwood glazed partitions being used in the sanitary annexes, where the walls are of glazed brick. The Main Waiting Hall of the Out-Patients' Department is faced inside with Hathern terra-cotta to the springing line of the barrel-vaulted ceiling. The walls throughout are, with few exceptions, lined with granite plaster finished with enamel paint. In the Medical School "Plastolith" dadoes have been used in the Laboratories and to the staircase. The Staircases generally are finished with granolithic treads and risers, with the exception of the Principal Staircase, which is finished together with the dado in grey terrazzo. The walls of the Board Room and Nurses' Dining Room are panelled to dado height in oak and teak respectively, but in no part of the Hospital is there an apartment which can be said to be so luxuriously furnished as to warrant detailed description.

Floors generally are of a plastic nature, asphalt being used in all the principal corridors and entrances and to the Out-Patients' Main Waiting Hall. Durato floors of a mottled character have been laid extensively throughout the buildings and to the margins of the wards, the filling of these latter being of linoleum. Teak wood block floors have been used in the Chapel, Board Room, Nurses' Dining Room, Secretary's Office, Matron's Quarters, Nurses' Recreation Rooms, Resident Medical Officer's Quarters, and other apartments of a similar nature. The Ward Sanitary annexes, Bath Rooms, Operating Theatres, Post Mortem Room, Lavatories, &c., are laid with terrazzo floors. The Main Entrance Hall of the Administration Block has a floor of white Roman cube mosaic, with black, white, and grey chequer borders.

The floor of the Kitchen is of red Ruabon encaustic tiles, the dado here and also throughout the Stores Department being of glazed bricks.

An interesting feature of the Operating Theatre Blocks is the use of steel door frames, which have been specially detailed and made in this country. The internal doors are flush hardwood to all the "Hospital" parts, deal enamelled doors being used in the Nurses' Home and other domestic portions of the building.

NOVEL FEATURES AND EQUIPMENT.

The Hospital does not present any special novelties in construction which call for description, rather has an attempt been made to avoid experiments in a building where hard wear and efficient maintenance at little cost are the first essentials. Walls, foundations and floors which do not settle and crack, roofs which are sound, plaster and paint free from the usual defects, joinery which shall not shrink: these are the things that matter, and effect the future condition and smooth working of such an institution. Without these attributes no scheme, however perfect in conception, can be successful. The result at King's College Hospital well justifies the time and care which have been expended on these items. There are, however, a few novel features in plan and equipment which may be found interesting to those studying hospital work.

Outpatients' Department.—A refreshment buffet has been provided in the Main Waiting Hall, where light refreshments may be served to the patients, heating and hot water being provided for dispensing tea, hot milk, &c. A sink and cupboard storage are placed behind the counter.

A perambulator shelter has been contrived beneath the Accident Entrance.

Children suffering from whooping cough are provided with a separate entrance and waiting-room; an isolation room is also available. All patients have to pass the almoner, and the considerable increase in accommodation now provided beyond the original intention of a small room well illustrates the growth of this department. The 24-Hour Ward and Padded Rooms each contain interesting features—the former comprising accommodation for both sexes, and being distinctly separated and provided as a self-contained unit. In the Ear and Throat Department there are a few items worth attention, such as the amber glazing to the Consulting and Operating Rooms, the scale of metres and feet inlaid in the floor material, the Flexwood dark blinds, and the special provision made for the treatment of adenoids. The Ophthalmoscope room in the Eye Department is a large apartment divided into cubicles, the walls being lined with black "Bickley" cement, the whole of the floor and ceiling also being finished in dull black. All corners and projections have been well rounded in order that the patients may not receive injury.

Wards.—The bays on either side of the Main Wards call for some attention; they are provided with lavatory basins, lotion bowls, sterilisers, &c., and are found in that position to be a great convenience to members of the staff. The method of running the heating and hot-water pipes in the window jambs is the outcome of much care and thought in attempting to eliminate internal pipes. Movable covers to the chases are provided for access in case of repair. The Medicine and Poison cupboards are excellent fittings, placed in the Ward and Clinical Room respectively; both are lighted by electric lamps. The improved Austral windows are placed flush with the plaster finish of the walls. They are provided with fanlights glazed with obscured glass of a special nature, which does not allow sun to penetrate, the blinds being fixed at the transome level. The Operation Room of the Eye Ward possesses a window of some interest—a recess below the cill level projecting outside and forming a pocket, into which the patient in bed is wheeled, enabling the patient's head to be brought as near the light as possible.

Operating Theatres.—An absence of all fittings with the exception of those actually required for operative purposes will be noted. The surgeons are provided with shower baths in connection with their rooms; these are found to be of great service after operating in such a high temperature, and for this purpose are preferable to the ordinary bath. The Spectators' Gallery, entirely finished in terrazzo, and the "Beck" beam light in the Gynæcological Theatre are also items of interest.

Administration Block.—All the Nurses' Bedrooms are provided with marble slabs in the corner for wash-hand basins; wardrobes are built as part of the rooms, with the usual fittings. Mirrors form the panels to the wardrobe doors in the Sisters' Rooms. All these rooms are comfortably furnished, and are well ventilated by extract flues and fanlights over doors; steel picture rails are also provided. The Nurses' Bathrooms have hot-water flushing cisterns intended to reduce wastage. The Central

Corridors are well ventilated and lit by windows at the ends, lobbies being also provided at intervals in their length for the same purpose.

The Kitchen roof is monolithic, and avoids the usual dust-collecting surfaces incidental to steel principals; it forms an interesting example of what can be done in ferro-concrete.

The various fittings which have been specially designed for the reception of all stores, the use of scrubbers, and the numberless rooms of this department are legion, and cannot be described in detail.

Medical School.—The Library fittings are constructed in Japanese oak, which presents many admirable qualities to recommend it. The splendid figure, colour, and markings of this wood are in every way preferable to the duller Austrian oak, and more nearly approaches the fine figure of the best English varieties. The Animal Room is housed in the Eastern Turret, provision being made for the sterilisation of the cages. Slate benching is constructed all round the room, upon which rest the tubular metal supports for the cages. A gulley is provided in the floor, and provision made for hosing down.

SANITARY FITTINGS.

The fittings have throughout been specially designed for their purpose and inaugurate an entirely new era in sanitation, as the parts generally concealed from sight and liable to insanitary accretions have here been eliminated, every portion being visible and easily accessible. The following features which have been introduced merit special description. The overflows to the sinks and basins consist of an open vertical channel formed in the pottery outside. The waste outlet has no metal work, a rubber plug fitting directly into the pottery, thus dispensing with the brass grid and union joint and their attendant collection of dirt. Both the overflow and the waste discharge directly into the hopper head of a porcelain enamelled waste, which is not connected to the pottery in any way, but hinged to one of the brackets supporting the fitting, and so arranged that it can be tilted or swung to one side for inspection or cleaning. Where floor channels are not desirable the overflow and waste discharge into a porcelain enamelled hopper trap fixed on the wall and also independent of the pottery. A removable aluminium grid is provided in the trap, being also fitted with a cleaning eye for access to the waste pipe beyond.

The hot and cold valves to all fittings are of the simplest possible construction and are covered with porcelain enamel, all the fittings being easily cleaned by a damp cloth, thereby effecting an enormous economy in labour. The fittings are also constructed to build into the walls flush either with plaster or other material with a cove.

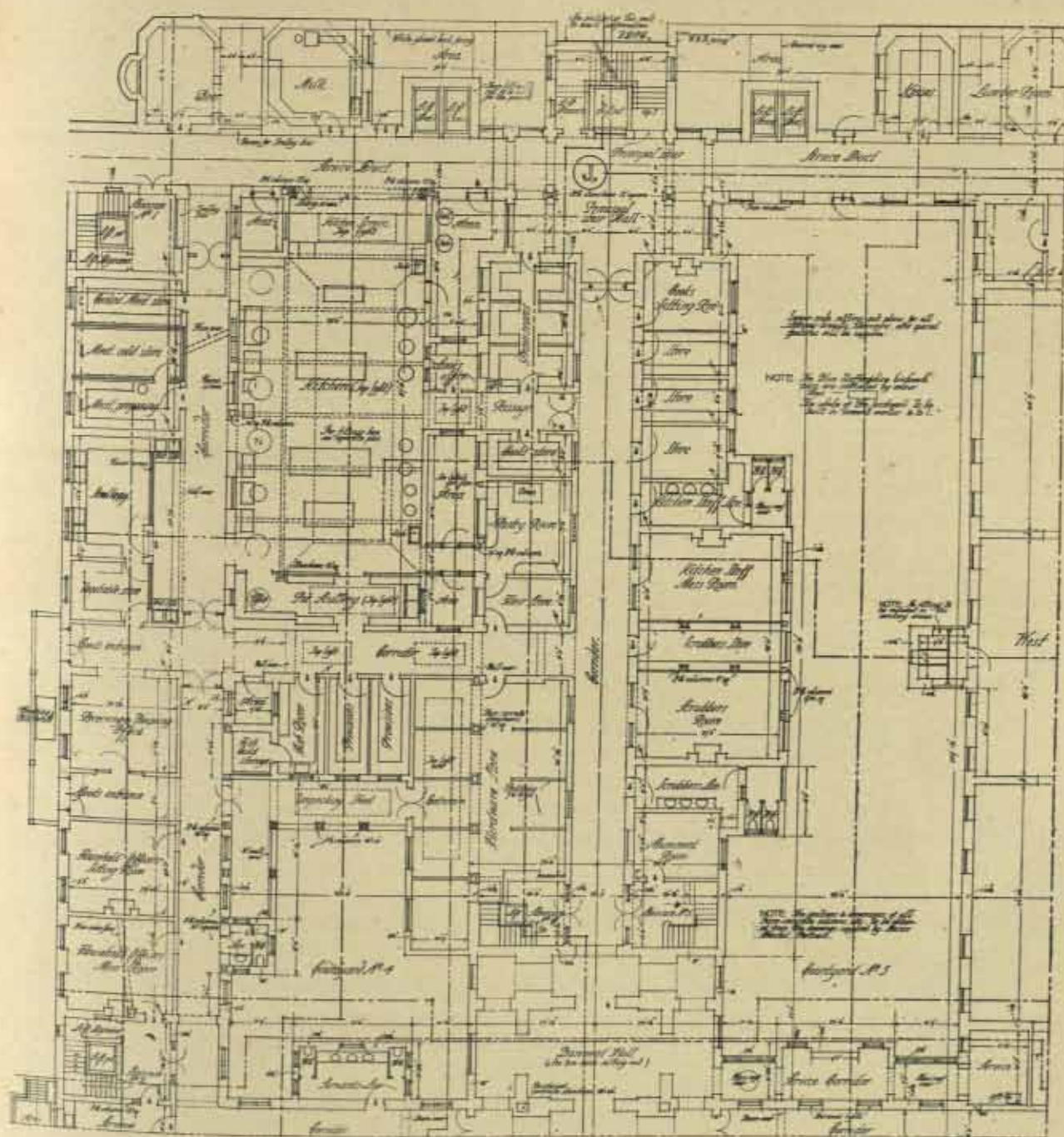
The bed-pan sinks are carried on porcelain enamelled bearers free of the wall and floor, the flush tank being divided into two compartments, one for the bed pan, the other flushing the sink. The flush for urine bottles is controlled by a porcelain enamelled weighted lever handle.

The water closets are of the shallow corbel type, with the flushing cistern immediately over the seat, where it is readily accessible for cleaning. The principles governing the design of the sinks and basins have been also applied to the baths, wherever possible metal and inaccessible parts being eliminated. The overflow and waste discharge into a channel formed in the terrazzo floor. Special lavatory basins of ample dimensions are provided in the nurses' hair-washing rooms, with mixing sprays, which can be safely regulated. Other fittings specially devised include movable baths, surgeon's shower baths, bed-pan cupboards of metal porcelain enamelled, etc.

VENTILATION.

Where possible the ventilation provided has been by natural means. In the Out-Patients' Department, where large crowds congregate, mechanical fans have been utilised to supplement the natural method; this has also been done in the Operation Theatre Blocks, Pathological Block, Medical School Lecture Theatre, and in other portions of the hospital where natural ventilation could not be relied upon. In the Administration Block all the bedrooms have been warmed and ventilated by admitting air from the corridors, to which fresh heated air is supplied past the radiators and thence through fan-

lights over the doors. Extract flues are also provided, the grating to the flues being near the floor beneath the beds. The flues all connect to the through ventilated trunk in the roof. The insertion of fans could be made at moderate cost.



Kitchen and Stores Departments.

In the Out-Patients' Department it was decided that a certain number of fans should be inserted, and these have been arranged according to the requirements of each position, either of the positive or simple propeller type. To the large Main Waiting Hall fresh air inlet ducts have been arranged under

the floor, from which fresh air is led past the radiators through gratings and baffles round the room and to the centre of the room, being incorporated with the Buffet. Openings in the ceiling connect to the trunk in the roof, where propeller fans, 5 feet in diameter, are placed, drawing the foul air from the hall and discharging it to the outer air. For the surrounding buildings roof ducts of concrete have been formed, asphalted over with communicating branches of varying diameters to suit the various rooms linked up. The openings from the rooms are in the ceilings or framework of the roof lights, gratings where possible being dispensed with in order to reduce the amount of cleaning. Electrically driven positive fans have been placed at the ends of the main ducts in special chambers, the starting and regulating switches being close by, connected by relays from tumbler switches in the rooms below; the starting and stopping of the fans being thereby under the control of the attendants below, and the speed regulation under direct control of the engineering staff.

In the Operation Theatres, in addition to the "panel" system of hot water heating, auxiliary batteries of radiators are placed in heater chambers beneath the theatres. The fresh air passes through the battery after cleansing to openings near the floor of the theatre. The foul air is drawn up into spaces provided above the ceilings and thence ejected by propeller fans. By regulation of the fans and the inlets the quantity of air for ventilation can be widely varied.

A similar system of extraction is provided to the Post Mortem Department, the usual system of fresh air passing the steam radiators, however, being adopted here. In the lecture theatre of the Medical School air is admitted through screens and passed through a battery of heaters in the roof to openings in the ceiling, the used air being then drawn out through openings under the gallery seats, and thence discharged by a positive propeller fan into the atmosphere.

DRAINAGE, WATER SUPPLY, AND FIRE MAIN.

The arrangement and superintendence of the Drainage and Water Supplies were made in conjunction with Mr. Charles T. Walrond, M.Inst.C.E., who has communicated the following particulars:

The general drainage system comprises a series of eleven main drains, running from south to north, and connecting in Bessemer Road with the public sewer, which in turn discharges into a larger sewer in Denmark Hill. Eventually there will be another main drain running from west to east to serve Ward Blocks Nos. 1, 2, and 3 that have not yet been built, and this drain will have its outfall in Denmark Hill.

A hospital, and, indeed, every large building, should possess several independent outfalls for the drains, so that in the event of any drain becoming choked, or having to be cut to provide for extensions, as small a section of the hospital as possible may be affected, and a minimum amount of interruption caused to the work of the institution. Of scarcely less importance is it that the drainage system should be periodically tested with but little inconvenience to the Staff, and reliable tests cannot be carried out in this way where a single drain serves the whole building, or even a large section of it.

Unfortunately, the Bessemer Road sewer, which was constructed not long before the preparations for the contract scheme for the Hospital were begun, was laid without reference to the characteristics of the Hospital buildings, one principal feature affecting the drainage scheme being the long main corridor crossing the drains at right angles and forming a sort of retaining wall with the ground level on the south side some 13 feet above the courtyards and basement of the Administration Block on the north side.

The effect of this sudden drop is to do away with the gentle slope of the original site towards the road, and for a distance of 250 feet from the road to substitute a stretch of courtyard and basement which is practically level. Had the sewer been laid deeper, as it no doubt would have been had the design of the Hospital been known at the time, several of the drains could have been given a far better fall than has been possible, and they could have been reduced in size.

The whole of the underground drains consist of heavy cast-iron pipes, caulked with molten lead and laid on a bed of concrete, and they have been given the best gradients which were found practicable. The pipes vary in size from 3 inches to 9 inches, and their gradients from 1 in 30 to 1 in 115.

The sewage drains are coated with Dr. Angus Smith's preservative solution, but, in the case of drains carrying rainwater only, further protection against rust has been provided by having the pipes either galvanised or sherardised.

Brick manholes have been provided in the usual way at changes in line and gradient of the drains and at points where drains join one another. The manholes are fitted at the ground level with the usual cast-iron frames and covers, and where it has been desired that the covers should be unobtrusive they have been recessed and filled in with asphalt, or stone, or whatever the material may be which forms the surrounding surface.

Frequently the brick manholes even on iron drains are provided with open channels in the floor to carry the sewage, and wherever this is done the manholes become storage chambers for foul air, and in the event of a chokeage the sewage rises in them and they are converted into cesspools for the time being.

The better method is to provide the iron drains with bolted iron covers where they pass through the manholes, and by making these covers airtight neither foul air nor sewage can find its way into the manhole. This is the system which has been adopted at King's College Hospital, and the iron covers can at any time be unbolted either for clearing a chokeage or for cleansing, and, if need be, disinfecting the pipes. These access covers have been freely used, and their cost may be regarded as an insurance premium against any serious interruption of the drainage system.

One great advantage of these airtight covers is that, where they are installed, a thoroughly reliable test of the drains can be made without opening the manholes, and without putting the drains themselves out of use during the process of testing for anything like the length of time that would otherwise be necessary.

The test referred to, which is known as the air test, can be conveniently applied, after closing all ventilation openings to the drains to be tested, by blowing air into the pipes through a rubber tube until the pressure, as registered by an ordinary gasfitter's gauge, is sufficient to support a column of water an inch or two in height. If the drain under test is sound, none of the air which is under pressure can escape, and the water level in the gauge remains steady. On the other hand, if there is a defect the air finds its way out, the pressure of the remaining air is reduced, and the gauge shows that the column of water it is capable of supporting is no longer as high as before. Thus the air test, equally with the water test, gives a positive result, and is not like the smoke test and the chemical test, which, when applied to a sound drain, show no result, and occasionally do the same thing when the drain is defective.

As far as possible all drains have been kept out of the pipe ducts, in order to avoid any possible risk to health from an inspection cover being carelessly left off. A few rainwater drains, however, which are trapped off from the sewage drains, have been run in the ducts, subways, and coal cellars, in which positions they are carried on iron cantilever brackets built into the wall or slung from the ceiling, or else supported on brick piers.

If drains are to be self-cleansing, not only should they be given good falls, but they must be well flushed. In order to secure this the upper ends of many of the main drains have been arranged to receive the waste water from the bathrooms in the sanitary annexes of the Ward Blocks, and the baths have been fitted with large outlets so that they may empty quickly.

Those drains which could not be flushed by means of baths have, where it seemed desirable, been provided with flush tanks, which slowly fill with clean water from the main and then automatically give a rapid discharge. Such tanks, for instance, have been fitted in the sculleries in order to break up and get rid of the grease, for grease, when it is allowed to solidify in the drains, often causes trouble.

Every drain, after being laid and before being covered up, was tested with water by means of a standpipe carried up to 25 feet above the level of the floor of the main waiting hall, the object being to prove that it was quite sound under a greater pressure than it would be subjected to in actual use. After the drains had satisfactorily passed the water test, the air test was applied to them in the way already described.

On the completion of each block the air test was reapplied, and it is specified to be applied for the third time just before the sanitary work is finally taken over and the contractor's responsibility for it ceases.

In order to reduce the amount of plumbing work to a minimum, where practicable, all baths, sinks, and lavatory basins have been arranged to discharge into surface channels in the floor.

In some cases it has been found feasible to give the whole floor a slight fall to the channel, and the convenience of this when using a hose and squeegee for cleaning is obvious.

Each floor channel is laid to a fall, and the outlet at its lower end is connected to a 3-inch white enamelled cast-iron trap, which discharges into a gully in the open air. The inlet to the trap is protected by a very open grating of aluminium, which, unlike the ordinary pattern, allows it to be readily seen whether the trap is clean or not, inspection being further facilitated by the white enamel.

In order to keep the traps in view, care has been taken not to place them immediately under a sink or basin.

Ordinary white enamel as applied to cast-iron is somewhat easily acted upon by acids which are used in hospital practice, and, therefore, a special enamel capable of resisting strong nitric and hydrochloric acid has been employed in coating the traps.

Each main drain is separately trapped off from the sewer in a disconnecting manhole at the Bessemer Road boundary. The pattern of intercepting trap adopted is the "Renor," which possesses the advantage of allowing any obstruction in the trap being removed from the sewer side, an operation which is usually impossible. The traps, like the drains, are of cast-iron.

The main drains are ventilated independently of one another, a fresh air shaft being provided at each disconnecting manhole.

The inlet heads to the fresh air shafts are fitted with mica flaps arranged on vertical pivots, instead of being suspended, as is usually the case, from their upper edges. This form of flap is more sensitive than the ordinary pattern.

The life of a mica flap is sometimes a short one, in consequence of its vibrating rapidly against the grating upon which it closes. The vibrations are due to the fluctuations in air pressure in the drain close to the intercepting trap when much water is passing. Two methods of guarding against this have been adopted, one being, where possible, to prevent pressure variations arising, and the other to restrict the variations when they do occur within fixed limits. By running a branch drain off the disconnecting manhole and ventilating its upper end no air pressure worth consideration can take place in the drain, because the branch at once relieves it. This is how the first method is applied. The second method consists in bridging or short-circuiting the "Renor" trap by a pipe with an adjustable aluminium valve upon it. The valve, though normally closed, opens to allow air to pass from the drain to the sewer, but remains closed against any air which tries to pass from the sewer into the drain.

SOIL PIPES.

The soil pipes are constructed, generally speaking, of cast-iron, with inspection doors at bends and junctions to allow of the ready removal of any obstruction and for thorough cleaning and disinfection. The upper or ventilating ends of the soil pipes, where taken up the slopes of roofs, are, chiefly for appearance sake, in lead. In some cases it was not easy to decide where the soil pipes should terminate owing to the proximity of windows, skylights, ventilating shafts, and chimneys, especially as they could not be allowed to show too prominently.

In the case of the sanitary annexes to the Ward Blocks the ventilating pipes have been grouped together in the roof and carried up side by side as a finial, which, unless carefully scrutinised, would not be thought to have any connection with the drainage system, but to be merely an architectural feature. All soil pipes were tested before the closets and slop sinks were fixed by being filled to the top with water, and after the fittings had been connected to them they were tested with air.

MAIN WASTE PIPES.

The main waste pipes are of galvanised cast-iron, and, to provide against the injury that is frequently caused by the passage of hot water, they have been fitted with expansion joints.

The ventilating portions of these pipes, where carried up the slopes of roofs, have been treated like the soil pipes and extended in lead.

In some cases it was found necessary to carry the pipes across a flat or some open space, and here resort was had to galvanised wrought-iron pipe on account of its greater strength and its neater appearance.

The waste pipes, including the traps of the floor channels, were tested with water and with air like the soil pipes.

WATER SUPPLY.

The Hospital authorities decided against having their own well and in favour of obtaining their supply from the mains of the Metropolitan Water Board.

The Board have a 16-inch high-pressure main in Denmark Hill with a pumping station at one end and a reservoir at the other, and this main was cut opposite the Hospital buildings, and a sluice valve inserted upon it. A connection was then taken off the main from each side of the valve and brought into the Hospital buildings.

If this main were ever to burst, the fault would of necessity be on one side or other of the 16-inch valve, and, if it were to take place on the reservoir side, the valve would be closed and the supply obtained from the pumping-station. If, on the other hand, the burst occurred on the pumping-station side, the valve would be closed and the supply drawn from the reservoir. It will thus be seen that there is very little risk of the Hospital being left for more than a few minutes without a full supply of water; but to make matters trebly safe, at the suggestion of the Water Board, a third branch has been run from the Board's low-pressure main in De Crespigny Park, which would come into operation supposing that anything so unlikely as two bursts at the same time occurred on the Denmark Hill main. Virtually, therefore, the Hospital has three independent sources of supply. The Board's meter is placed inside the Hospital, instead of in a manhole in the road, and a recording pressure gauge has been fixed close to it, so that a permanent continuous record may be kept of the pressure.

In order to carry out the instructions of the Building Committee, that every cold water fitting throughout the Hospital should be supplied off the main direct, the Hospital water main had to be large enough to supply all the buildings during that period of the day when water, both hot and cold, is in greatest demand, and, although there was no difficulty in ascertaining from the records of other Hospitals of similar size what total amount of water would probably be used per diem, no data of the maximum consumption during any given hour of the twenty-four were available, and the problem of the size of main to be adopted did not lend itself to any form of accurate calculation.

The main is of cast-iron, and varies in size from 10 inches to 4 inches. All branches over 3 inches in diameter, and all branches buried in the ground, are cast-iron, but the remainder, with few exceptions, are wrought-iron. The cast-iron pipes are jointed with molten lead, no yarn being used in the joints. Sluice valves have been provided on all branches, and provision has been made for a water meter to be readily placed on any branch, so that the consumption in any part of the Hospital may be ascertained when desired.

The amount of storage of cold water to be provided was fixed by the Committee at 20,000 gallons,

and this volume is contained in a pair of cisterns constructed of riveted steel boiler plates, and situated in the Tank Houses on the roofs of the two centre Ward Blocks.

The cisterns are each 14 feet high and 13 feet in diameter, and take the form of closed tanks, and access to them is obtained through manholes on the top, which are fitted with airtight covers. They are painted internally with "Siderosthen," and the connecting mains are provided with valves so that in the event of any interruption to the supply from the Water Board's system the cisterns can be made to serve the whole network of cold water pipes in the Hospital.

The specified hydraulic test for the water mains and services is 120 lb. per square inch at the ground level near the main entrance.

FIRE MAIN.

The fire main and its branches are supplied from the Water Board's high-pressure main already referred to, and the same threefold precaution against failure in the domestic supply has been adopted in regard to the fire service.

The main runs through the pipe subway and basement, and the branches rise from it to the hydrants on the different floors.

The hydrants are of Messrs. Merryweather's "Metropole" pattern, the handwheels being of cast-iron, in order to reduce the quantity of bright gun-metal, which needs polishing, to a minimum.

Below each hydrant is a 1½-inch cock for filling fire buckets.

The fire main and its branches were tested under a hydraulic pressure of 200 lb. per square inch.

For the drainage work as well as for the water mains and services and the fire mains throughout the Hospital, with the exception of the Out-patients' (and Casualty) Department, Messrs. Matthew Hall & Co. were responsible as sub-contractors, under the general contractors, Messrs. Foster & Dicksee; Messrs. Doulton being the sub-contractors for the corresponding work in the Out-patients' Department.

ENGINEERING PLANT.

The design, arrangement, and superintendence during construction of the engineering plant and equipment were entrusted to Professor D. S. Capper, M.Inst.C.E., of the firm of Messrs. Kirkland & Capper, consulting engineers, who have communicated the following particulars:—

The engineering requirements of the hospital are of considerable extent and include plant for heating, ventilation, domestic hot water supply, sterilising, disinfecting, refrigerating, electric light and power for lifts, fans and other requirements, refuse destruction, gas supply, cooking, telephones, bells and clocks, and dispensary machinery.

Main central plant is installed, so that the hospital is entirely independent of external sources of supply and has everything under its own control with the exception of the gas supply.

MAIN GENERATING PLANT.

The Central Station containing the main generating plant is situated about the middle of the south side of the hospital, immediately between Ward Blocks Nos. 4 and 5. This position has the advantage of centralising the supply as nearly as possible, with consequent reduction in distribution losses.

The Central Station consists of engine room about 70 feet long by 31 feet wide, and boiler room about 70 feet long by 30 feet wide, the spaces between these two main rooms and the Ward Blocks on either side being divided up into stores and rooms which are occupied by the auxiliary plant, including pumps, electric storage battery, main refrigerating plant, telephone exchange, and repair workshop.

The power station is partly sunk below the general external ground level. One portion of the roof stands above this level, while the remaining portion covering the coal and oil stores is kept to the ground level to enable fuel to be readily delivered into the stores beneath.

It having been decided, after careful consideration, not to obtain steam and electricity from an outside source, it was resolved to instal Diesel oil engines for driving the electric generators and Lan-

Lancashire boilers for supplying the steam for the heating and hot water services. One of the factors which determined this combination was that if a well should have to be sunk to provide water for the hospital, the hardness of the well water would be detrimental to the boilers if the larger quantity of make-up feed required for steam engines were used without previous softening. To further reduce the quantity of make-up feed water, electrically driven plant has been installed for the auxiliary machinery, which has the added advantage that no special provision has to be made, as with steam-driven plant, for separating the lubricating oil from the steam discharged from the pumps before it enters the heating system.

Also, the steam plant has been designed so that all condensed steam should be returned to the boilers, the only exceptions being in instances where the steam is contaminated by contact with vegetables in steamers, foul articles in disinfectors, etc., in which cases it passes directly to the drains of the hospital.

Three Lancashire boilers, each 30 feet long by 7 feet diameter, are provided. These supply steam for warming the building and for heating water for domestic supply, as well as for sterilising, disinfecting, and cooking purposes.

The stoking floor level is the same as that of the steam coal stores, openings into which immediately face the furnace doors to facilitate stoking. Coal is delivered directly from the roadway above on to the stoking level, so that handling of coal is reduced to a minimum. All coal, before it is delivered into the steam coal stores, which have a capacity of about 220 tons, is weighed on a weighbridge placed on a roadway leading to the Central Station.

The air supply to the Crosthwaite furnaces is supplied by an electrically driven fan, the air being warmed by the hot gases discharged from the Diesel engines. An alternative arrangement is provided by a steam blast.

The flue gases from the boilers pass through an economiser on their way to the chimney, and thus economically heat the water fed to the boilers. This economiser consists of 120 tubes, the outer surfaces of which are kept clean of soot by means of electrically driven scrapers. Close to the economiser is placed a furnace for destroying the refuse from the hospital, the flue from the destructor entering the main boiler flue at the back of the economiser. Ashes are taken from the boiler room by means of an electrically driven hoist to the ash store, which is at the level of the roadway above, thus facilitating their removal by the municipal authorities.

The engine room is adjacent to the boiler room, and the three dynamos therein are driven by Diesel oil engines. The total horse-power is about 350, and the current is supplied to the hospital at a pressure of from 100 to 110 volts.

All the engines and dynamos are placed on a reinforced concrete bed made in one solid block, insulated by ashes from the surrounding soil so as to reduce to a minimum the danger of vibration or noise penetrating to the adjacent wards. The gases discharged from the engines pass either directly to the chimney or through the air heater for the boiler furnaces already mentioned, valves being provided to direct the gases in either direction. Six main cylindrical oil fuel storage tanks are provided. These can be filled directly from the roadway.

Oil is pumped by a hand pump from these tanks to auxiliary feed tanks close to the engines. Independent starting arrangements are provided for each engine, but are inter-connected so that any one starting vessel can be used for starting any engine, thus reducing to a minimum the danger of stoppage due to any starter failing.

The main switchboard which controls the whole of the electric current throughout the hospital is placed in the engine room directly under the control of the engine driver, and a battery of 50 cells of sufficient capacity to carry the hospital over any ordinary engine breakdown period is placed in a room at the back of the switchboard. This battery during ordinary normal working is used as a regulator to supplement the current supplied from the dynamos and steady the supply at times when sudden demands arise in the hospital.

A 5-ton overhead travelling crane runs on rails stretching from end to end of the engine-house to facilitate the carrying out of repairs.

The refrigerating plant consists of machinery for manufacturing ice and for cooling various rooms, such as the cold meat store and mortuary. The ice store is close to the main refrigerating plant, thus enabling the ice blocks to be delivered directly from the refrigerating tank to the store by an overhead runway, for distribution throughout the hospital.

Owing to the exigencies of the site, the pump room is sunk to a level about 13 feet below that of the engine room floor. This enables a gravity return from the steam mains to be utilised and avoids the use of isolated pumping plant which would otherwise have been necessary, and enables the whole of the working machinery to be under the control of the engine room staff.

The ducts through which the return mains reach the pump room from the hospital are graded downwards to the pump room, so that in the event of a leakage in the pipes the water can run down to the pump room, where it is collected in a sump, from which it is pumped by an automatic electrically driven drain pump into the general drainage system of the hospital, which is at a higher level than that of the pump room floor. A steam ejector is also provided for use in the event of the breakdown of the electrical pump.

The whole of the electric motors for the pumps are controlled from a switchboard placed on a gallery round the upper part of the room on the engine room floor level.

HEATING PLANT.

The system adopted for heating the hospital is by low-pressure steam, passing through radiators and heating coils, the condensed water draining back to the pump room, where the return mains are connected through a condenser and vacuum pumps to the main feed tank, from which the feed pumps deliver the water through the economiser to the boilers.

The whole of the main supply and return pipes for the heating system are carried in ducts constructed below the basement floors of the building, these ducts, wherever possible, being made of sufficient size to give easy passage from end to end to facilitate inspection and repairs. Where the ducts could not be made large enough for this purpose, openings with removable covers have been provided in the floors at frequent intervals, so that all vital portions of the pipes are accessible. The vertical pipes rising from these ducts to supply the radiators are as far as possible run so as to avoid obstructing the rooms.

In the Administration Block the pipes are fixed to the walls outside the building, only the branches connecting them to the radiators passing through the wall. Special care was taken with the coating of these exposed pipes to reduce condensation losses to a minimum.

In the Ward Blocks the external window jambs have been utilised by making the vertical splays hollow with the pipes placed within. The outside faces of the splays are removable so that access can be obtained to any of the pipes. These arrangements enable the floor beneath the radiators to be kept entirely free from obstruction by pipes, thus facilitating cleaning, and the main pipes being outside the building prevents the necessity of workmen entering the wards should any repairs be required to them. Generally, the radiators are placed under the windows with inlet ventilating openings behind them, baffle plates being fitted to the radiators to deflect the incoming warmed air so that it rises up over the surface of the windows, thus enabling ample ventilation to be provided by natural means as far as possible without draught. The radiators, with a few exceptions, are of the hinged "Astro" pattern, so that the walls and ventilating openings behind the radiators can readily be cleaned and kept free from dust. The section of the radiator adopted was specially designed for the hospital, so as to be entirely free from projecting or recessed surfaces, to facilitate cleaning and reduce the deposit of dust to a minimum.

The ventilating openings behind the radiators are provided on the inner surfaces of the walls with specially designed baffles of the hinged louvre type, the whole framework containing the louvre being

likewise hinged so that it can be easily lifted up and the opening behind thoroughly cleaned. In the few cases where it was found necessary to use fixed radiators, a specially designed ventilator, with a single hinged flap covering the whole of the opening, was provided. The flap is arranged so that it can be turned right back or completely removed to enable the ventilating opening to be cleaned by a brush passed between the radiator sections. All radiators are fitted with special relief valves and dirt pockets.

In certain cases, principally in the basement and Laboratories, uncovered pipes carried round the rooms near the ceilings are fixed instead of radiators.

This system of heating has many advantages for such positions, as it leaves clear floor and wall spaces, and avoids the occupants having to sit close to heating surfaces, at the same time giving efficient results. The principal heating of the wards is effected by open hearth ventilating stoves placed in the middle of the floors towards each end of the wards, a few radiators being fixed to supplement the heat from the stoves during specially cold weather. Provision has been made so that the number of the radiators may be readily increased should they at any time be required.

The main Operation Theatres are heated on a somewhat different system. The special conditions to be met in these cases were that heat is required both in summer and in winter, that only such obstructions as are absolutely unavoidable should be allowed, and that the room should be capable of being well heated to a high temperature in a very short time and well-ventilated. To meet these conditions, cast-iron radiators are dispensed with, the heating being carried out on the panel system, which consists of small-diameter pipes attached to the walls and ceilings and covered with Durato plaster, which has an expansive co-efficient similar to that of the pipes. Heat for these panels is provided by means of hot water circulated from steam-heated calorifiers placed in the basement of one of the blocks, a separate steam main supplying these calorifiers to enable them to be used at any period of the year.

The calorifiers have special temperature-regulating valves, so that the water which is passed through the panel pipes should not exceed 160° F. Further, the panels are arranged in sections, which can be cut off individually, so as to regulate the temperature within wide limits. By these means the walls and ceilings of the theatres can always be kept warm. To give the additional heat required when an operation takes place, and at the same time to allow the rooms to be well ventilated, fresh air is introduced after being warmed by passing over auxiliary batteries of radiators placed in chambers underneath each theatre, the air being cleansed by passing through screens both before and after traversing the heating batteries. The circulation of this air is rendered positive by means of extract fans placed in the roof, which also enables the amount of air supplied to the theatre to be regulated as required.

The valves for controlling the panels and auxiliary batteries and the switches for the fans are placed in one of the rooms adjacent to the theatre, so that the operation theatre itself is, so far as the heating and ventilating systems are concerned, clear from projections on which dust can lodge. This also applies to the hot and cold water and sterilisation arrangements, as these services are provided in an adjoining room.

HOT WATER SUPPLY.

Hot water is provided from steam-heated calorifiers placed in the engine room. The pipes to the various points at which the service is required in the building are arranged on the drop pipe system. The main flow pipes run from the calorifiers to tanks placed in the roof of the Ward Blocks on each side of the power station. From these tanks pipes are run through or on the roofs of the several departments of the hospital, and connect with drop pipes which run to the basement, supplying on the way the various draw-off points. These drop pipes are collected together in the basement and returned through the ducts to the calorifiers. The main return pipe passes through the pump room, where it is connected with an electrically driven circulator for assisting the circulation.

The water supply to the calorifiers is drawn from a cold water tank connected to the water com-

pany's mains or from the circulating water discharged from the Diesel engines when they are working. The heat discharged in this circulating water is thus utilised in the hot water service, instead of being run to waste. The heat discharged in the cooling water from the condenser in the heating system is similarly used. Each calorifier has a storage capacity of 850 gallons, and is capable of providing 3,000 gallons of water per hour at a temperature of 180° F.

Several pieces of apparatus were specially designed to prevent waste of hot water, thus :

In all the bathrooms of the Administration Block hot water is supplied to the baths through waste preventer tanks, which are kept constantly hot by a circulating coil from the hot water system passing through them. Each tank contains sufficient hot water for a bath, and its contents are discharged by a single pull, ensuring an adequate supply without that waste which may occur by hot water being turned on and left running. The pipe filling the tank is provided with a valve, which can be set to fill the tank in any desired time.

In the ward kitchens, the linen rooms and patients' clothes rooms certain services which are required both summer and winter are heated by the hot water system to enable the steam-heating mains to be closed down in summer. Such services are, for example, the hot serving closets in the ward kitchens and elsewhere, the heating coils in the linen rooms and patients' clothes rooms, the towel and blanket rails and the bed-pan racks, &c., in the wards and operating theatres. In the ward kitchens boilers are fixed for tea-making, milk-warming and egg-boiling purposes, for which the water is heated partially by hot-water coils and partially by electricity, thus greatly economising electricity. The egg and tea boilers are interchangeable in case of breakdown, and into either of these milk sauce-pans or egg poachers can be inserted, so that a variety of work can be obtained from the same apparatus. The hot-water bottles for the wards are stored in specially designed tanks filled with water kept constantly hot by coils from the hot water system, so that the bottles are immediately available for use, and the work of refilling them is entirely avoided.

KITCHEN PLANT.

The main Kitchen is provided with steam and gas appliances. Gas is used for the ovens and grills and steam for the boiling pans, serving and carving tables. The gas ovens are provided with a special safety device, so arranged that any explosion inside the oven will open hinged covers in the top and allow the escape of the exploding gases without risk of injury to those in attendance. A gas hot plate is attached to the grills, and the burners are so arranged that on placing the cooking utensils over them the gas is turned full on and lit by a by-pass, but on the utensils being removed the gas supply is cut off automatically with the exception of the by-pass, thus economising gas.

The steam-heated boiling pans are fixed on cantilevers in the walls, so as to free the floors from obstruction and render them easy to clean. The discharge from the steam spaces of these boiling pans is arranged so that the steam passes directly into the heating system of the hospital, and the condensed water escapes to the return main, thus utilising all the waste heat possible. A similar arrangement is adopted for the steam-heated serving and carving tables.

In the potato and vegetable steamers the steam comes into contact with the food to be cooked, and is therefore passed directly into the drains.

Electrically driven machines are provided for paring potatoes, cleaning knives, washing plates and crockery generally, and in addition a hand bacon slicer is provided. Special apparatus for Pasteurising the milk for the children's department is also installed.

The steam supply for the Kitchen is connected with the separate steam main already mentioned as supplying heat for the Operation Blocks. This main is also used for the Dispensary plant and for disinfecting and sterilising purposes. The steam pressure in this main is 50 lb. per square inch, which is reduced as required.

DISPENSARY PLANT.

Plant for distilling and preparing drugs, tablet making, soda water manufacture, &c., is installed. Steam is supplied to the boiling pans and stills, and the machinery is electrically driven.

STERILISING PLANT.

In the Out-Patients' Department and in the wards the instrument sterilisers are heated by electricity. In the main Operation Blocks steam-heated sterilisers are installed for dressings, surgeons' coats, instruments, hot and cold water, &c.

DISINFECTING PLANT.

A steam disinfecter is provided to deal with mattresses and other large articles. This disinfecter is placed between two rooms, one of which is used for receiving the infected goods and feeding them to the disinfecter. The goods after disinfection are withdrawn from the disinfecter into the other room, thus ensuring that infected and disinfected goods do not come in contact.

LAUNDRY.

The hospital decided that all goods should be washed in a laundry outside the hospital, and that all foul and infected goods should first be sterilised in the hospital before being sent to be washed. The arrangements they required for doing this consist of steeping tanks for disinfecting and purifying the foul linen brought from the wards in sealed receptacles, the tanks being provided with steam jets for boiling the contents when required. A steam jet is also used for sterilising and cleaning the receptacles in which the infected goods are brought to the washhouse.

VENTILATION.

As far as possible the ventilation of the hospital has been provided by natural means, as already described under Heating, but in a number of cases it has been found advisable to supplement this by electrically driven fans. In the Out-Patients' Department, where cases of special difficulty in obtaining complete ventilation by natural means occurred, a certain number of fans were inserted and arranged according to the requirements of each particular position, either of the positive or propeller types. An instance of this is the Main Waiting Hall, where large numbers of people will at times be assembled, the Hall being surrounded on all sides by consulting rooms and other buildings. In this case fresh air inlet ducts have been arranged communicating with openings in the floor immediately under radiators, the openings being arranged round the walls of the room and in enclosures in the Refreshment Buffet in the middle.

Extract openings are provided in the ceiling and communicate with the hollow roof, in which are placed propeller fans 5 feet in diameter. These fans draw the foul air from the Hall, and ensure a circulation of fresh-warmed air through the Hall. The rooms surrounding this central hall are provided with fresh-air inlets admitting air behind the radiators. For extract purposes the rooms are collected into five sections, each section having on its roof a main duct into which openings are made from the rooms, through the ceiling or the framework of the skylights. Gratings, except where absolutely necessary, are dispensed with to allow the free passage of air and to reduce the amount of cleaning required. The air is extracted from the rooms through these main ducts by fans placed in special chambers on the roof, from which it is discharged to the outer air. These positive fans are automatically controlled, so that they may be started or stopped by switches placed at convenient positions in the corridors or rooms below.

In the Administration Block all the Nurses' and Staff bedrooms are supplied with warm air from the corridors. Fresh air enters the corridors, in which it is heated by radiators, and then passes into the rooms through fanlights over the doors. Extract openings are arranged near the floor underneath the beds, and communicate with upcast shafts leading into the hollow roof, from which the air

is discharged to the outer air through openings so designed and prepared that fans may be inserted if required.

The Kitchen is ventilated by extract fans drawing from openings distributed round the Kitchen roof and discharging above the main roof of the hospital; the position of the Kitchen, which is a one-storied block placed in an area surrounded by bedroom and office blocks, rendering prevention of smell of paramount importance. The gas ovens and boiling pans are ventilated into this same system by vertical shafts.

The Lecture Theatre of the Medical School is ventilated and warmed by means of air admitted through screens and a battery of heaters placed in chambers on the roof and connected with inlet openings in the upper part of the room. The air is extracted through openings under the seats of the auditorium and discharged by a positive fan into the outer air.

In the dark rooms of the X-ray and other departments special light-tight ventilators have been provided, admitting air, but excluding all light.

ELECTRICITY SUPPLY.

The electric supply mains from the main switchboard in the generating station to the sub-switchboards in the various departments of the hospital have been carried through the tunnel and ducts already mentioned, and are of bare copper strip supported on porcelain insulators. Great care has been exercised to protect these mains from any risk of short circuiting and injury, and where any chance of contact arises special guards have been inserted. Access to the ducts along which these bare leads are carried is only permitted to authorized persons.

Vulcanised india-rubber insulated conductors are led from the sub-switchboards to the lighting and power points, and enclosed, either in special half-round section wooden casing on the surface, or in steel tubing buried in the walls in cases where it was necessary to keep the wall surface free from projections.

The power requirements of the hospital are considerable, including current for the auxiliary electric plant in the main generating station, electric ventilating fans, lifts, sterilisers, motors for kitchen plant and for the blower for the organ in the chapel, as well as for X-ray and other electro-medical apparatus. The mains are so arranged that the power and lighting loads can be separately measured, as can also the load for the pilot and external lights throughout the building.

All switch and fuse boards are mounted on white marble blocks, and enclosed in teak cases provided with glass fronts, the cases being of special design with a top sloping at 45° to the wall so as to facilitate cleaning and render any dust deposited readily visible. Great care was taken to design all fittings, whether pendants, brackets, plugs or switches, of a form which can be easily cleaned and allow the least possible projection on which dust could collect.

In the wards the Medical Staff required a bracket light over every bed, and under each of these brackets is fixed a plug socket so that when a patient is being examined a hand-lamp can be used without the flexible connection trailing across the floor. The bronchitis kettles, as in the case of the instrument sterilisers, are heated electrically.

In the Operation Theatres special lighting fittings for the operating tables were designed; that in the Out-Patients' Department Theatre being arranged so that it can be lowered to enable every portion of it to be readily cleaned.

For the Gynaecological Theatre a powerful arc lamp searchlight is fitted outside the theatre, and projects a beam into the room through a window, fitted with a cooling chamber on to mirrors, from which it can be directed to any required part of the patient under operation. The beam may be either concentrated or diffused by a simple adjustment of the mirrors.

Brackets of special design have been fixed on the walls of all Operating Theatres to provide auxiliary lighting, and in addition provision has been made by flush plugs of suitable amperage for supplying current for cauteries, cystoscopes, and other electro-medical appliances.

ELECTRIC LIFTS.

The electric lifts are all of the push-button type, rendering attendants unnecessary. To avoid risk of accident special precautions have been adopted. The lift cages are made to fit the wells, and the wells themselves have been made flush from top to bottom, so that when the cages are passing the doors there is no projection from which accident can arise. The gate locks have been specially designed so that the risk of pinching the fingers when opening and shutting the Bostwick gates is eliminated. In addition to the usual precaution, which prevents the working of the lift when any door is open, and will not allow the door to be opened unless the cage is opposite to it, special arrangements are made to ensure that when a person is using the cage no one can interfere with the working of the lift until that person has left it and shut the gate on the landing.

Lifts are provided for passengers, beds, food, and general service. In all there are ten electric lifts and two hand lifts, provision being left for additions if required.

TELEPHONES, BELLS, AND CLOCKS.

The telephone exchange room adjoins the main battery room, and contains the electric control mechanism for the inter-communicating telephones in the hospital. This plant is of a type which requires no operator, inter-communication being obtained entirely by automatic means. A subsidiary battery for operating the telephones, as well as the clocks, which are also electrically controlled, is placed in the main battery room. The master clock is in the telephone exchange room, and controls the 120 clocks in the hospital. The electric bells are also controlled from the same battery as the clocks and telephones, instead of from isolated batteries scattered about the hospital.

In connection with the electric bell system ten automatic indicators are installed which show at convenient places in the hospital the arrival and departure of members of the Staff. These are operated from the porter's office in the entrance hall. A special device has been adopted in the Nurses' quarters of the Administration Department for awakening the nurses. A gong is placed in each bedroom corridor, and all these are controlled from one board placed in the Matron's office. This board is provided with two sets of pushes and a set of small lamps. On pressing one push the lamp corresponding to it is lighted, and so remains until the second push is pressed to stop the bell. In this way complete control is given to the Matron.

DISCUSSION ON THE FOREGOING PAPER.

MR. ALFRED W. S. CROSS, M.A. Cantab., *Vice-President*, in the Chair.

THE CHAIRMAN, in opening the discussion, said they were all very much obliged to Mr. Pite for his most able and illuminating address on the very fine hospital he had designed. They were honoured on this occasion by the presence of several distinguished guests who were interested in hospital construction generally and in the building under discussion in particular, and he had much pleasure in calling upon the Rev. Arthur C. Headlam to propose a vote of thanks to Mr. Pite.

THE REV. DR. HEADLAM, formerly Principal of King's College, in proposing a vote of thanks for the Paper, said he felt grateful for having been given the opportunity of speaking about the building of King's College Hospital, for, as a member of the Building Committee, he had been connected with it from the beginning; and there were a few points which, from

a lay point of view, it might be well to emphasise. The occasion also gave him the opportunity to express his thanks not only to Mr. Pite for the extraordinarily able manner in which he had carried out his designs, but also to some others who had worked upon the Hospital. First of all he would express their obligations to Mr. Rowland Plumbe, who was well known as a hospital expert, and had worked for years at the London Hospital. He was appointed by the President of the Institute as Assessor in the competition, and had thrown himself into the work with the greatest ardour, bringing into their specifications and terms of competition all the experience he had gained from the London Hospital. That was a very great point in their favour at the start. As far as he (Dr. Headlam) could judge—and he had inquired into it very carefully—the Committee had every reason for

believing that their Hospital was not only well constructed and designed, but also that it worked admirably. He had taken the trouble to interview the heads of departments, and had talked with a large number of those who worked in it; and they all, without exception, expressed entire satisfaction with the way in which the designs had worked out. He was informed by the Secretary that he had taken round the Hospital an American expert in hospital construction. We did not, as a rule, expect very great praise from Americans for the somewhat feeble efforts—as they thought—of this country, but he was pleased to say that this American expert stated as the result of his visit that he had found fifty per cent. more foresight in this Hospital than in any other that he had seen. There were two or three ways in which this result had been gained. He had mentioned the help which Mr. Rowland Plumbe had given them at the beginning. Then they had formed a Committee; and there were one or two points with regard to that Committee which he would dwell upon. There had to be a majority of lay members, whose business it was ultimately to decide on debated points. Then there were experts in all the departments, experts in sanitary science, and representatives of the different departments of the Hospital. They had had in particular the help of the lady who at that time was Sister-Matron at the Hospital, Miss Catherine Monk. She died only a few weeks ago. Miss Monk was one of the ablest of the many able women who had presided over the London hospitals, and a very large amount of the practical convenience of the plan was due to her suggestion and initiative. They took the greatest care that all the departments worked in the Hospital should be carefully consulted upon every detail. It might seem extraordinary that it should be necessary to emphasise that, but only the other day he was going over a very important public building—he would not mention the name—which had been erected not long ago in London by the Office of Works, and he was informed that not one of the departments had been consulted in any way about the planning or arrangement of that building. The result was that, although it was a fine and imposing structure outside, when they came to work in it the building was found to be full of defects, and many of the most important points had been forgotten. Therefore, speaking to architects, he would like to emphasise the importance of every department being consulted. The arrangement for consulting the different departments of King's College Hospital was this: The Medical Staff appointed a Watching Committee, consisting of those members of the staff who took the greatest interest in the building and would give up most time to it. And that Watching Committee had two representatives on the Building Committee. Every single department sent in its requisitions; these were gone through by the Medical Committee, and then they came before the Building Committee. The result was that no department was allowed to

develop its work or its demands at the expense of any other. The Building Committee, and of course the Architect, had the considered opinion of the Medical Staff on every material point. A member of the staff who had helped them immensely on the Watching Committee was Dr. Silk, its Secretary, who had devoted a large amount of time and trouble and care in keeping the work together. In order that good results might be obtained, two things were necessary. One was that the Medical Staff should be reasonable in their demands, and he was bound to say that, throughout, the Medical Staff of King's College Hospital took the greatest care not to demand anything which was unreasonable or extravagant, and they were always ready to help the Building Committee in every way. On the other hand, it demanded sometimes a good deal of patience on the part of the Architect to meet their demands. Again and again he had admired the patience, courtesy, and skill with which Mr. Pite devoted himself to meeting the special demands of each department; he was prepared to change his plans again and again, and often to sacrifice architectural points which he cared for a good deal. All these preliminaries took considerable time, and it was, he believed, four years before the building was begun after the first plans were constructed. And he thought the hearty co-operation of the Medical Staff, the different departments, the Sister-Matron and the Architect, had had the effect of producing a very remarkable building. Personally he had been a bit of an amateur architect all his life; and the opinion he had formed of Mr. Pite's work had been this: that in all cases the artistic work had come out of the needs of the building in the structural work. In no case had there been ornament put in merely for the sake of the ornament. But, somehow or other, by making the Hospital fulfil its purposes as well as possible, the Architect had succeeded in producing what was in all respects a very pleasing building. The façade and the interior of the Chapel were most attractive, and in no part of the work was there anything which was not in perfect harmony with the purpose of the work—well proportioned and well constructed. It was with very great pleasure that he proposed a vote of thanks to Mr. Pite for his Paper, and he would express his own thanks and the thanks of all connected with the Hospital for the enormous trouble, patience, and skill which Mr. Pite had shown in designing and carrying out the building.

THE HON. R. C. PARSONS, M.A., M.Inst.C.E., Member of King's College Council, in seconding the vote, said that Dr. Headlam and himself had been colleagues in connection with the hospital from the first, and he fully endorsed all that Dr. Headlam had said. It was now thirteen years since it was decided to move King's College Hospital from its original site to the south side of London, and it was a question as to what site should be selected. There were a number of positions proposed; some on the flat ground between Denmark Hill and the river, and others

on higher ground; and the eminent physician Dr. Buzzard was deputed, with himself, to visit the several sites selected out of the large number proposed. Amongst others they visited the Denmark Hill site. They realised quite clearly that that site was facing the north, but all the same the back of it faced south and also faced a beautiful park. Hence, although the front faced the north the sun would shine on the back, and if the architect designed his buildings with that fact in view, all the advantages of the sun could be obtained, as well as the beautiful view over Ruskin Park. The area was twelve acres. He and his colleague agreed that this was the most desirable site, but—could they afford it? They made their representations to the committee, and as soon as the report was presented Mr. W. F. D. Smith (now Lord Hambleden) came forward in the most magnanimous way and offered the sum necessary to purchase that site, in memory of his late father. The next question was to select an architect who would prepare designs to make the best use of the site. A large number of eminent architects were asked to submit plans. Mr. Pite, with his usual modesty, had passed over that question with very little comment: but he might say that they looked through all the designs, and with the aid of Mr. Rowland Plumbe, the eminent architect, came to the conclusion that in selecting Mr. Pite's design they were doing well. The designs were prepared, and many and many days were spent in considering the various details. Every question was thrashed out, and, from first to last, in a most harmonious manner. The result had been put before the meeting that evening by Mr. Pite, and he wished that a doctor were in his place now, for he would be better able to appreciate the various details which had been described. From an engineer's point of view, he considered that the design had been worked out most skilfully. The use of reinforced concrete, the application of which he had studied a good deal, had been exceedingly well introduced; it lightened and improved the design of the building very considerably, especially from the sanitary standpoint. The next question was that of heating and lighting. They had as next door neighbour a large electrical company, and the Committee discussed very carefully whether they should take their current from that company. In the end it was decided to be independent and have their own installation. The question of a well also was considered, and they came to the conclusion that, at all events for the time being, it was advisable to take their water supply from the London services. Later on it might be advisable to sink a well, though in that case the water was sure to be very hard, coming, as it would, from the chalk, and a softening apparatus, which was always difficult to work, would have to be introduced. Then there was the all-important question of maintenance. This had to be kept carefully in view, in order that the working expenses might be kept down to a minimum. He did not believe any heat was being lost; but, on the other hand, all was used to the best advantage. From that point of view, therefore,

the working expenses were kept down to the very lowest. There were many other points which but for the lateness of the hour he could touch upon. He would only say in conclusion that he thought the whole building reflected the greatest possible credit upon Mr. Pite.

DR. SILK said that as he happened to be the only member of the Medical Staff present, he would accept this opportunity of expressing, on behalf of the Medical Staff, their appreciation and gratitude for the very excellent building which Mr. Pite had put up for them. Allusion had been made to the fact that the Medical Staff had been consulted freely before the plans were decided upon, and he thought it was owing to this that no friction whatever had arisen between them and the Architect. The Watching Sub-Committee of the Medical Staff was appointed to go very carefully into all matters connected with the foundation of the Hospital and the buildings, and took a great deal of trouble. They visited hospitals all over London and in the Provinces to see what they could pick up in the way of "tips" on various details; and he felt sure that, for many years to come, King's College Hospital as designed by Mr. Pite would be a classic example of hospital construction, so that any other architect who undertook to build a hospital would have first to consider very carefully the design and arrangement of King's College Hospital. Whether or not he adopted them in their entirety was another matter. But he felt sure Mr. Pite had constructed a hospital which would be a great example of hospital construction for the future.

MR. E. L. LEVETT, K.C., member of the Building Committee, said he was only a new-comer at the Hospital, but he had to do work in it now, and that work was made very much easier by the admirable way in which it was arranged throughout.

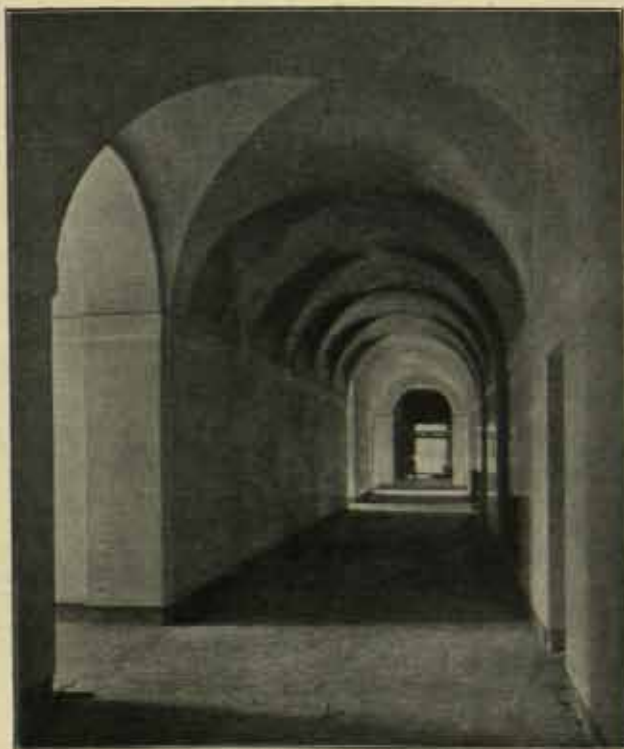
CAPTAIN A. C. TUNNARD, Secretary of the Hospital, expressed his appreciation of the Paper and his concurrence with what had been said by the members of the Hospital Committee who had addressed the meeting that evening.

MR. H. W. WILLS [F.] said he had great pleasure in supporting the vote of thanks to Mr. Pite. They were accustomed to hearing most hospitals described as containing the latest improvements; and although he could bear testimony to the admirable way in which the King's College Hospital was planned, he would refer to a point which had not been alluded to by previous speakers. They usually went down to a hospital to admire its plan and the manner in which it fulfilled certain practical wants; but, unfortunately, as a rule they could not look upon it as a building which carried on the historic traditions of English architecture. But he thought that King's College Hospital aroused in them something of the feeling with which such a great work as Chelsea Hospital inspired them. That, too, was a building which was exceedingly simple and direct in its expression, having occasional architectural features which gave

emphasis to the brick-work. And he thought Mr. Pite had carried out the same feeling in King's College Hospital, and so it would show future generations that we in this generation had learned something from Sir Christopher Wren. He was perfectly certain that King's College Hospital would not only be considered in the future as a good type of hospital design, but as a most excellent example of English architecture, which would give pleasure to a great many architects, which more elaborate and decorative buildings often failed to do.

Mr. S. PERKINS PICK [F.] said he could not add anything useful to what had been said already, except to offer his very hearty congratulations to Mr. Pite on the successful termination of this huge work. The various details one could occupy many hours in discussing. He thought Mr. Pite had given a lead to the whole profession in the admirable manner in which he had tackled this very difficult problem. The only detail he felt inclined to mention was that he thought, as days went by, they would find that the open balconies provided were hardly sufficient for the hospital. There had been a great evolution in the utilisation of open balconies during the past ten years. This hospital was probably designed before the full effect of that came into force: but in years to come he thought open balconies would become more and more general, because he believed it was generally admitted that surgical wounds and other cases get well in a much shorter space of time by getting the patient in the open air than when they were in wards, no matter how well such wards may be ventilated.

Mr. WILLIAM A. PITE, in reply, said he had felt exceedingly diffident about coming to that meeting to talk about his own work. He was, however, most grateful to Dr. Headlam and Mr. Parsons for the generous way in which they had spoken. One of the joys of carrying out the work had been the reconciling of the varying views of the Medical and Surgical Staff, and the close contact in which the work had brought him with the Watching Committee. Dr. Silk could have told them that the Committee had held about fifty-six meetings, mainly after 8.30 at night, and often continuing to close on midnight. He would not like this occasion to pass without expressing his warm appreciation of the extreme sympathy and help that Lord Hambleden had rendered from the commencement. When he (Mr. Pite) first entered upon this great work he wondered whether he should ever see it built. But the sympathy and help he received at all times, not only from Lord Hambleden but from every member of the Medical Staff, had been most encouraging. It was impossible for one human being to carry out unaided so great a work, and he owed a deep debt of gratitude to the staff who had served him during its progress. It had been a very happy time; the whole thing had been carried through without friction or trouble of any kind. Added to that, to have a firm like Messrs. Foster and Dicksee to erect the building, and such a capable foreman and clerk of works as Mr. Simpson, had lightened his work enormously. He thanked the Meeting most heartily for the patience with which they had listened to him and for their kind expression of thanks.



Central Corridor, Administrative Block.

REVIEWS.

RURAL BUILDING BY-LAWS.

Building By-laws in Rural Districts. By Sir William Chance, Bt., M.A., late Chairman of Committee, Building By-laws Reform Association. London: P. S. King & Son, 1914.

Sooner or later every architect is aggrieved by the operation of some by-law or other in a rigid code, and longs for greater freedom. Like the Building By-laws Reform Association, he may feel that "any effort to get rid of Building By-laws altogether would be time and money thrown away," but he, like them, tries to find out how such by-laws may "be made more elastic in their operations." It is only when he gets to close grips with the subject that he discovers how complicated and difficult it really is, and how easily in evading one pitfall he may tumble into another. The subject is really one which calls for the co-operation of the architect, the surveyor, and the trained lawyer well versed in building law.

Sir William Chance's book is a bold attempt to provide a new code of building by-laws for rural districts. The code, we are told in the preface, was "drafted by an experienced and well-known architect," but no doubt the compiler of it would be the first to admit that a lawyer's collaboration would be necessary to bring the code into proper form. In the first place attention may be drawn to a striking difference in the drafting. The L.G.B. By-laws are personal: Every person who shall erect a new building, or construct an earth-closet, &c., shall carry out the works in certain specified ways. In the new code most of the by-laws are impersonal: for example, "The whole ground surface or site of a new dwelling-house . . . shall be properly asphalted or covered with a layer of good cement concrete." No great difficulty of interpretation arises from this change of drafting until we come to by-law 11. By-laws 1 and 2, I may say, deal with definitions and exemptions, and in by-laws 3 to 10 inclusive the word *new* is always inserted in connection with the building to which the several by-laws apply, but by-law 11 provides that "no pipe used for the purpose of conveying rain-water from a building shall be in direct communication with any drain used for conveying sewage," and by-law 13 requires that "sanitary accommodation must be provided in or adjacent to every domestic building." By-laws 21 to 25 contain provisions applicable to "every water-closet"; by-law 27 applies to "every earth-closet in or in connection with any dwelling-house or in any building in which any person may be . . . employed"; many of the by-laws 28 to 38 apply to "every privy" or to "every ashpit"; and by-laws 39 to 42 apply to "every cesspool in connection with a building." The alteration of the method of drafting and the omission of the word *new* in the by-laws referred to appear to warrant the conclusion that these by-laws would apply to old buildings, as well as to new. If this is the intention, the reader's attention ought at the least to have been drawn quite clearly to the change. If it is

not the intention, then the redrafting is unfortunate.

One or two changes in other by-laws are somewhat curious. The Model By-law requires an asphalt or concrete layer over the site of all new "domestic buildings," and by definition "domestic buildings" include dwelling-houses, outbuildings, shops, &c.; but the suggested by-law 3 requires the ground-layer under new dwelling-houses only. Surely shops ought not to be excluded. Again, the suggested by-law 27 requires a window to be provided in "every earth-closet in or in connection with any dwelling-house," but in the case of a building in which any person may be employed in any manufacture, a window is required in the earth-closet if, and only if, this is "in" the building, the words "or in connection with" being in this case omitted. It is difficult to find a reason for this difference. If a window is necessary in an earth-closet in connection with a dwelling-house, surely it is necessary in one in connection with a workshop. Again, a w.c. must have a window of certain *minimum* dimensions, "opening directly into the external air"; an earth-closet must have "a window [no dimensions specified] communicating directly with the external air." Why are dimensions given in the one case and not in the other, and why is one window described as opening and the other as communicating?

Perhaps the most radical difference between the proposed Code and the Model Rural Code is in the by-laws dealing with air-space about buildings. The new by-law 6 provides that a new domestic building, with exceptions to be noted later, "shall have in connection therewith an open space exclusively belonging thereto, equal in area at the least to the area of the building . . . and the building therein shall be so placed that two sides at least shall open for purposes of light and ventilation on such open space, or on a street, road, or other public open space immediately adjoining such building." In a note we are told that under this by-law "the position of the building in the space is left to be arranged by the builder." Frankly, I think this goes too far: it might result in a quite inadequate space being left on one side of a building. But a nice legal question is also raised: What would be the effect of the by-law in the case of any house, not an end house, in a group of three or more houses? In such a case there is, as a rule, an open space in front and another open space in the rear, and the intention of the new by-law, if one may judge from the "Note," appears to be that these two open spaces taken together shall be equal in area at the least to the area of the building, but the by-law itself refers to "an open space" and to "such open space"—in other words, to one open space and not to two—and it might with good reason be held that either the front open space or the rear open space must have the area specified. But this is not all: the by-law lays down that "the building therein shall be so placed that two sides, at least, shall open . . . on such open space, or on a street, road, or other public open space imme-

diately adjoining such building." This appears to preclude any *private* open space on one of the two exposed sides of a house in the middle of a row. If the open space required by the by-law is provided in the rear of a house, there cannot be a front garden, as the front of the house must "open . . . on a street, road, or other *public* open space immediately adjoining such building." A similar difficulty confronts us if the open space required by the by-law is provided in front of the house, as the back of the house must then open on a street, road, or other public open space immediately adjoining such building. Surely this is not intended. Or is the by-law a subtle way of ordaining that nothing but detached or semi-detached houses must be built in rural districts? In these cases the open space for each house could be one open space, partly in the rear, partly at one or both ends, and partly also in front if desired, and the intention of the by-law, as explained in the "Note," could be carried out.

I have already said that there are exceptions to the operation of this by-law. It is proposed to exempt any domestic building "not occupying a greater area nor having larger cubical contents than an existing domestic building on the same site." Quite apart from the objection to such an exemption on sanitary grounds, the exemption is, I think, bad in law. What constitutes a new building is defined in the Public Health Act of 1875, and in effect this suggested by-law attempts to substitute a new definition. A statutory provision cannot, however, be altered by a by-law, and the exemption would, I think, be held to be *ultra vires*. Other details to which reasonable objection might be raised could be mentioned, but enough has been said.

In addition to the suggested code, the book contains the text of a short bill of five clauses, entitled The Public Health Acts (Building By-laws) Bill. This Bill passed the House of Lords in 1906, but was not passed by the Commons. It sought to exempt certain buildings in rural (and also, with the consent of the Local Government Board, in urban) districts from the operation of by-laws with respect to the structure of walls, &c., and to provide a simple mode of procedure for a person aggrieved by any by-law. The aggrieved person was to have the right of applying to a Court of Summary Jurisdiction, with a right of appeal to a Court of Quarter Sessions. That some kind of procedure is necessary to prevent the operation of unduly onerous and obsolete by-laws probably all architects are agreed, and many think that the suggested mode is as good as any.

The book is an interesting sign of the times. When a public man like Sir William Chance takes the trouble of preparing a book on such a dry and technical subject as by-laws, it is evidence of public interest in the question. There is no doubt whatever that the Local Government Board is anxious to remove all reasonable grounds of complaint against the by-law system, but at present the Board has not the power to compel a Local Authority to adopt new by-laws or to alter existing ones.

G. L. SUTCLIFFE [F.]

MONT SAINT-MICHEL AND CHARTRES.

Mont Saint-Michel and Chartres. By Henry Adams. With an introduction by Ralph Adams Cram. Sm. 4s. Boston and New York, 1913. 25s. net. [Houghton Mifflin Company, Riverside Press, Cambridge, U.S.A.]

The author treats his subject thoughtfully and with originality, and writes in a readable style. The plan of his book represents him as mentor of an American party engaged in a "tramp abroad." Therefore the book does not pretend to be a work of reference, and should not be criticised as such. Viollet-le-Duc is much quoted in the architectural chapters, but next time the author visits Chartres he will do well to spend a couple of francs on M. René Merlet's Guide to the Cathedral, which may cause him to modify his views as to the plan of the chevet; at present he follows Viollet-le-Duc in regarding this plan as an arbitrary and somewhat clumsy conception of a thirteenth-century architect, and fails to tell his readers that its peculiarities are really due to that architect's ingenuity in making the utmost possible use of the foundations and crypt of the earlier church. These foundations are laid out on the conventional French Romanesque lines, an apse with procession path and three deep radiating chapels opening therefrom, the chapels isolated and not clustered. All the thirteenth-century architect added in the way of foundations was a series of curtain walls between the apses of these isolated chapels, and this gave him the present plan of the chevet, which Viollet-le-Duc says does him little credit, and which Mr. Adams explains in a rather fanciful manner.

The author writes with discernment about the somewhat similar economic reasons which have given us the west front of Chartres in its present form. His chapters on the twelfth- and thirteenth-century glass in the cathedral are excellent; they are no mere catalogue of subjects, and they help the reader to recall a vision of this special glory of Chartres. So much, indeed, does Mr. Adams admire these early windows that he has apparently been unable to enjoy the fourteenth-century glass at St. Pierre, the big church in the lower part of the city—and he has lost much innocent pleasure thereby.

Some of the earlier chapters and the whole of the end of the book are devoted to transcendental theories of literature and general history: in these matters the every-day architect must fain sit at the author's feet. The Institute JOURNAL is hardly the place in which to review these "ex cathedra" pronouncements, but it is a very suitable publication in which to acclaim a kindred spirit in one who writes with such grace and freshness of his love for Chartres.

CHARLES A. NICHOLSON [F.]

Books Received.

Lithography and Lithographers. By Joseph Pennell and E. Robinson Pennell. (The Graphic Arts Series.) 4s. Lond. 1915. 10s. 6d. net. [T. Fisher Unwin, 1 Adelphi Terrace, W.C.]
Individuality. By Charles Francis Annesley Voysey. 8s. Lond. 1915. 3s. 6d. net. [Chapman & Hall.]



9 CONDUIT STREET, LONDON, W., 24th April 1915.

CHRONICLE.

R.I.B.A. Record of Honour : Ninth List.*

Killed in Action.

WHITEHEAD, HENRY MONTAGU [*Student R.I.B.A.*]:
2nd Lieut. 4th Bn. East Surrey Regiment—killed
in action on the 14th April.

Mr. Whitehead, who was twenty-four years of age, was the second son of Mr. Henry H. Whitehead, of Boston Road, Brentford. Having passed through the four-years' course of the A.A. School of Architecture he was exempted from the Intermediate Examination and was admitted Student R.I.B.A. in December 1913. He was a pupil and afterwards assistant with Mr. W. A. Forsyth [*F.*], and was subsequently in the office of Mr. W. H. Harrison [*F.*].

On War Service.

Below is published the Ninth List of Fellows, Associates, Hon. Associates, Licentiates, and Students of the Institute who have joined the Military and Naval Forces of the Empire for the period of the War. The total numbers to date are 37 Fellows, 242 Associates, 100 Licentiates, 1 Hon. Associate, and 133 Students.

HON. ASSOCIATE.

Crawford and Balcarres, Rt. Hon. the Earl of : Pte., R.A.M.C.

FELLOWS.

Barnard, L. W. : Captain, 16th King's Royal Rifles.
Scorer, G. O. : Inspector of Works, Staff for R.E. Services.
Williamson, William : Lieut., 7th Bn. Black Watch.

ASSOCIATES.

Adams, P. Tidswell : 2nd Lieut., Duke of Wellington's Regt.
Aylwin, G. M. : Surrey Yeomanry.
Berrill, Ralph : 2nd King Edward's Horse.
Foster, Frank : R.E.
Hobson, J. Reginald : O.T.C.
Hughes, Basil : Lieut., R.E.
Kay, G. A. :
Lyon, Maurice : R.N.A.S.
Mulready, Paul : 2nd Lieut., 9th Bn. Loyal North Lancs.
Nott, George : O.T.C.
Payne, Edwin O. : Durban Light Infantry.
Roberts, R. M. : Major, A.S.C.
Sagar, W. H. : R.E.
Sutcliffe, Eric J. : R.A.M.C.
Woodward, Frank : R.A.M.C.

LICENTIATES.

Birks, Ellis R. : 2nd Lieut., 2/1 W.Y., R.F.A. (T.).
Crawford, Charles : Staff, T.F. Records Office.

Hayward, A. B. : Royal Fusiliers.
Horth, Frederick J. : Artists' Rifles.
Sanderson, L.N. : Sub-Lieut., R.N.V.R.
Stewart, Hugh : 6th Field Co., Canadian Engineers.

STUDENTS.

Brown, C. W. : R.E.
Farey, C. A. : 2nd Lieut., A.S.C.
Francis, G. E. : R.E.
Lloyd, Albert P. : 2nd Lieut., Welsh Regt.
Meredith, Edward : 15th R.W.F. (London Welsh).
Peel, Arthur : R.E.

Major A. B. Hubback [*F.*], of the Public Works Department, Kuala Lumpur, and late of the 19th Bn. London Regt., has been promoted Lieut.-Colonel Commanding the 20th Bn. London Regt., with the British Expeditionary Force.

Mr. W. Hubert Godwin [*A.*], formerly a private in the 3rd Bn. Royal Warwick Regiment, has obtained a commission as 2nd Lieut. in the 4th Bn. of the same regiment.

Mr. G. Howard Jones [*A.*], formerly of the Public Schools Bn., Royal Fusiliers, has obtained a commission as 2nd Lieut. in the 3rd Bn. Welsh Regiment.

Factory Buildings.

Mr. Segar Owen's valuable Paper, "The Design and Construction of Buildings for Industrial Purposes," read at the Institute last Monday, will be published in the next issue of the JOURNAL, together with a report of the interesting discussion which followed, and communications since received on the subject. The President, Mr. Ernest Newton, A.R.A., now fairly recovered from his recent indisposition, presided at the meeting, and joined in the discussion. Other speakers were Sir William Lever, Bart. [*Hon. A.*], who was a guest of the Council at dinner that evening, Mr. Matt. Garbutt [*F.*], Mr. William Dunn [*F.*], and Mr. Max Clarke [*F.*]. An outstanding point in Sir William Lever's remarks was the advice to cheapen the cost of factory buildings. Factories, he said, are built much more solidly than is necessary, and a factory built too solidly is not an economical building. A mere change in the process of manufacture, a change in the type of machinery, may involve the scrapping of the factory and the erection of an entirely new one. The only type of factory which commended itself to him was one on the "concertina plan." Only the outside boundary walls need be permanent; the whole of the inside partitions might be but half a brick in thickness; they should be of such a character that they could be easily torn down when departments were required to be enlarged.

Official Architecture Committee.

The Council have received a report from the Official Architecture Committee, which was appointed in the year 1912, to consider and report upon the whole subject of Official Architecture. In the opinion of the Council the Report is of such a controversial nature that the present is not a suitable time for its discussion, and the Council have accordingly decided to defer its consideration for six months. Members will recollect that a similar decision has been arrived at in connection with other controversial matters which are being dealt with by the Council.

* Previous Lists will be found in the JOURNAL for 26 Sept., 17 Oct., 7 Nov., 21 Nov., 9 Jan., 23 Jan., 6 March, and 3 April.

Town Planning.

At the Westminster Palace Hotel on the 20th April there was a conference of local authorities representing Greater London, Middlesex, Hertfordshire, Kent, and Surrey, arranged by the National Housing and Town Planning Council to consider the detailed preparation of town-planning schemes and the administration of the new Housing Act during the period of the War.

The first matter considered was the number of houses that should be allowed to the acre. The Chairman, Mr. F. M. Elgood [F.], favoured a limitation of twelve to the acre, either for workmen's dwellings or other buildings. Many speakers contended that it was inadvisable to fix a maximum. The price of the land was a considerable factor, and it was mentioned that at Tottenham, when the local council wished to erect a public convenience, the owner demanded £32,000 an acre for the land.

Mr. Birkett, of the Hampstead Garden Suburb, said one could get as much land as was required for building round London at from £250 to £300 per acre, but there was a great difference in the price of land in the north of England. By limiting the number of houses to the acre they would find that the cost of land in the north would go down very much, although not so low as in the London area, and so remove one of the greatest difficulties in the housing question.

The Chairman announced that under the Ruislip scheme the Council had been successful in acquiring 106 acres for open spaces without the necessity of paying a farthing of compensation.

The Local Government Board have given authority for the preparation of nine further town-planning schemes, covering about 19,611 acres. The places are Newport (Mon.), Southend-on-Sea, Wallasey, York, Beckenham, Hendon, Heston and Isleworth, Ruislip-Northwood, and Honiton.

Risk of House Famine After the War.

At the National Housing and Town Planning Council Conference at the Westminster Palace Hotel, on the 21st April, fears were expressed that at the close of the War all the worst features of a house famine would exist. In a memorandum on the building of cottages Mr. Henry R. Aldridge, secretary of the Council, pointed out that after the war private capital might be attracted by high rates of interest into fields of investment other than those of cottage building, with the result that there would not only be a shortage in the supply of new houses, but house-owners would be in a position to demand and obtain rents out of proportion to the original cost of construction. He suggested that, in addition to stimulating and aiding the work of local authorities in the erection of houses, the State should give facilities to public utility societies and to private enterprise, under well-defined conditions, to provide houses in all areas where there was a recognised deficiency of supply.

The Roof of Westminster Hall.

In the House of Commons on the 15th April, on the vote to complete the sum of £74,000 for the Houses of Parliament buildings, Mr. King drew attention to the work which has been begun upon the roof of Westminster Hall.

There were, he said, a great number of points in connection with the way the work had been decided upon and undertaken which were open to the strongest suspicion. Any proposal to deal drastically with this great historic building ought to have been put before the House and the public with much greater fullness and opportunity for discussion and modification than had been given by the Office of Works. Not only was no public investigation held, but expert opinion on Gothic architecture was ignored. Why was no architect who had been engaged on repairing the roof of the great Cathedrals, Canterbury, York, Westminster, and Durham, consulted? It seemed as if the Office of Works formed a preference for an iron and steel roof, and decided to carry it out at all cost. He thought that if there was a reversion to the ancient lead roof of the Hall in substitution for the slates the strain on the timber would be considerably lessened. He doubted whether it had ever occurred to the Department, or whether they had ever considered the beauty of the ancient building from the point of view of restoring it and keeping it as nearly as possible in its old condition. He submitted that there was a very grave case of vandalism against the Office of Works. From below, the roof might look the same, but it would no longer be an existing piece of Gothic art. The real antiquarian character of the roof would be gone for ever.

Mr. Soames held that the Office of Works had proceeded on perfectly sound lines. They were going to put a very slight steel bracing behind the old timbers, so that almost every cubic inch of the present timbers as they had existed for many years would be preserved to us and to our children practically in appearance as they were to-day. It was true that when the scheme prepared by the Office of Works, and described in the very admirable report of Mr. Baines, was made public, one letter from an architect appeared in *The Times*. The writer of that letter found fault with the scheme, and suggested the rebuilding of the whole roof. He (Mr. Soames) read that letter with amazement. He was astounded that any man with any architectural pretensions should propose to destroy and reconstruct this roof, when it was possible to keep the old roof in existence by simply bracing it together with steel. Not very long after there appeared another letter in *The Times* in support of the action from two of the most eminent architects of the present day—Mr. Reginald Blomfield and Sir Aston Webb. Both those eminent architects expressed entire approval of the scheme. The suggestion was thrown out that the Office of Works had a preference for an iron and steel roof, and having that preference, set to work to devise a scheme to carry it out. Mr. Baines's report, however, showed that the matter had been gone into with exceeding carefulness. The hon. member said that if the existing roof was preserved in its entirety, simply braced together with a slight steel structure, that the whole of the antiquarian character would be gone. What he wanted to do was to take away a great part of it and put up a new building; then apparently, in his view, the antiquarian character would have been saved! That was a reasoning he (Mr. Soames) could not understand. If the hon. member had the anxiety to preserve the antiquarian character of the old building he would most certainly, instead of asking for the destruction of a great part of it, approve the scheme of the Office of Works, which would preserve the whole of what we have now for years to come.

Mr. Beck, replying for the Office of Works, said it was quite a mistake to suggest that there was anything either hurried or surreptitious about the treatment of Westminster Hall roof. After the unusual step had been taken of conducting members round the roof the House deliberately voted £10,000 for starting the work now in hand. Before Mr. Baines's able report was

adopted it was submitted to the Ancient Monuments Committee, one of the most eminent bodies in the country, and carefully considered by them, and afterwards submitted by them to Sir Aston Webb and Mr. Reginald Blomfield, who agreed that the report was a most valuable one, and would preserve this great monument in the most admirable manner. "It is, indeed, a very strange idea," he continued, "to suggest that, instead of preserving these old timbers, the actual timbers which our ancestors put into the roof, which they felled and so magnificently designed, we should put in their place other timbers like them and destroy the old beams that are there. My hon. friend is very much mistaken when he talks about the timber being a magnificent work of carpentry until Mr. Raines's scheme was adopted. As a matter of fact when Barry restored the roof he used very much the same methods to a certain extent as are used now—that is to say, he used iron and steel in order to strengthen the roof, in just the same way as it is proposed to do now. As regards the lead roof, that is a mere matter of expense. At any rate, even if the criticisms are right—and I do not say they are wrong—it is now too late, because Parliament has voted the money, the orders have been given and the whole thing is well on its way."

The vote was agreed to.

Experiments in the Ventilation of Schools.

In the House of Commons last Tuesday, Mr. King asked the President of the Board of Education whether he was aware that the architect to the Board took part in experiments, made at Birkenhead on 20th November 1913, into the ventilation of schools; whether any report was made to the Board on these ventilation tests; and, if so, whether the Report had been or would be made public.

Dr. Addison: The answer to the first part of the question is in the affirmative. The Board's architect did not in this case submit any formal report, but even if he had it is not my practice to publish the advice given by my officers on matters affecting the administration of the Board or other Departments.

Mr. King: Is the hon. gentleman aware that there is a great deal of uncertainty in the policy of the Board with regard to ventilation enquiries, and consequent difficulty arising in formulating plans by the Local Education Authorities?

Dr. Addison: The schools are provided by the Local Authorities.

The Front of No. 9 Conduit Street.

A few years ago the proprietors of *The Builder* instituted a competition offering valuable prizes for the two best designs for a suggested new façade to the Institute premises, No. 9 Conduit Street. Regret was expressed that "the central home of the architectural profession should not be represented by something of more architectural importance and significance than the existing rather prim piece of cement classicism," and the younger members of the profession were invited "to suggest what they could do by way of replacing the present façade with something of more monumental character." Nevertheless, in the opinion of many, the present quiet, unobtrusive front has its merits, not the least being a certain quality of repose which distinguishes good architecture and which is often deplorably absent in more pretentious buildings. One of the latest admirers of the old front is "Ubique,"

of the *Architects' and Builders' Journal*. Writing in last week's issue, he says:—

Looking at the front of the Institute premises in Conduit Street the other day I wondered what was so wrong with it that some desired to replace it with a modern front, and I soon came to the conclusion that there was very little wrong with it, that it was, in fact, a delightful façade, marred only by the absence of the window bars which disappeared when plate-glass came upon the scene. The Institute should be very jealous of their front, and should warn off the spoiler itching to do something better. There is a scholarly air about this façade which is very proper to the headquarters of the architectural profession in this country. It belongs to a period when classical architecture was better handled than it is to-day, and its obvious merit should assure its preservation. But the Institute might well depute its most skilful member in these matters to put back the window bars; to fill in the fanlight over the entrance, which looks rather bare as it is at present; and to replace the railings with others more worthy of the fine façade behind them.

It is fair to mention that the response to *The Builder* competition above referred to was a very good one. Some excellent designs were submitted, and the first prize was awarded to Mr. Stanley J. Wearing [A.] for an exceedingly careful and refined piece of Classic design. It is illustrated along with the second-prize design in *The Builder* for the 8th January 1910.

Fire-Resisting Glazing.

Two Reports have been issued by the British Fire Prevention Committee on recent investigations undertaken by them with wired glass as applied to window openings and to skylights. These tests are a continuation of a series of tests with wired glazing which they undertook some ten years back at the instance of Messrs. Pilkington, of St. Helens, and the series of some seven Reports spread over the last decade shows the remarkable manner in which the fire resistance of glazing of this type has been successfully developed.

The two Reports now presented afford remarkable evidence of the fact that wired glazing, when vertically used in windows, has withstood the heavy strain of the British Fire Prevention Committee's tests for a period of 90 minutes at temperatures gradually increasing to 1,500° F., the fire tests being immediately followed by the application of water from a steam fire engine applied at close range. Further, when horizontally used, this glazing has withstood the fire test of an hour's duration at similar temperatures, followed by a similar application of water. The maximum size of any piece of glazing under test in a vertical position was 4 feet by 1 foot, and the maximum temperature attained in the skylight test was 1,600° F.

Both tests are records for wired glazing, and claim considerable attention, as they put modern wired glazing, when suitably fixed, in the same fire-resistive rank as fire-resisting partitions and doors of considerably greater thickness and weight.

The Campden Summer School.

The attention of architectural pupils and students is drawn to the course in Architectural and Landscape Drawing provided at the Summer School in connection

with the Campden School of Arts and Crafts to be held from the 9th August to the 3rd September. The General Director is Mr. C. R. Ashbee [F.], and the Instructor Mr. F. L. Griggs, who has in many drawings recorded the charm of the Cotswold villages. The classes will be chiefly for the study of technique and composition. They will be held twice a week in August, and students will be at liberty to choose their own subjects, working either together or individually, and will have the opportunity of meeting the Instructor one evening a week for his criticism of their work done apart from the classes. There is also a course in Wood and Stone Carving, with Modelling and Figure Structure. Full particulars may be had from the Secretary, Mr. W. T. Hart, Campden, Glos.

OBITUARY.

The late Samuel Flint Clarkson [Retired Fellow].

Mr. S. Flint Clarkson, who died on the 4th April, at the age of seventy-five, became an Associate of the Institute in 1869, proceeded to the Fellowship in 1885, and was placed on the list of Retired Fellows in 1910. Until a few years ago he took a prominent part in the activities of the Institute, serving for several years on the Board of Examiners and as a member of the Practice Standing Committee. He had been a member of the Architectural Association since 1860, and acted as Hon. Secretary in the years 1872 to 1876, and as President in 1879-80. To the JOURNAL of 7th November 1908 he contributed an appreciation of his master, Mr. John Gibson, whose work considerably influenced him throughout his career.

S. Flint Clarkson was articled in 1854 to Mr. Charles Ainslie, architect and surveyor, of Old Jewry Chambers, E.C., and on the completion of his articles remained with him as assistant until June 1862. During the year 1861 he attended Professor Donaldson's lectures at University College. In 1862-63 he was assistant in the office of Mr. F. W. Porter, of 16 Russell Square; and from 1863-67 managing assistant to Mr. John Gibson, of 13 Great Queen Street, Westminster. In 1867 he started practice with his brother, Mr. John Clarkson [F.], at 36 (now 28) Great Ormond Street and St. Albans, Herts. Among works carried out by the firm were the Club and Mission Hall, and also the Boys' School, of St. George the Martyr, Queen Square; various manufacturing premises in Kirby Street, Charles Street, and Great Saffron Hill, Hatton Garden; shops and warehouse premises in the Strand; schools for the St. Albans School Board; Westminster Lodge and other residential buildings at St. Albans, including roads and many houses on the St. Peter's Park Estate; Hill Court, near Edenbridge, Kent, &c. Messrs. J. & S. Flint Clarkson were also the architects of the Mission Hall of St. Frideswide, Poplar, for Miss Catherine Mary Phillimore (Clever Sisters of Mercy, Oxford), and the church of St. Nicholas, Blackwall; the Public Library, Poplar; alterations, &c., Poplar

and Stepney Asylum, and All Saints' Church, Poplar; the new Baths in Glengall Road, for the Poplar Vestry; Public Library, Commercial Road, Limehouse; conversion of Brunswick Hotel, Blackwall, for the purposes of the Poplar and Stepney Sick Asylum; alterations and additions to the Town Hall, Poplar; the new Swimming Baths in Broad Street, St. Giles's, in competition; new workmen's dining-rooms and other buildings, Isle of Dogs, for Messrs. Yarrow & Co., Ltd.; addition to the Technical Schools, East India Dock Road, for the Governors of the George Green Foundation; residences and quarters for the medical officers and staff, and other additions, at the Workhouse, High Street, Poplar; business premises, offices, also warehouses in Chelsea, Limehouse, Poplar, Millwall, Bromley-by-Bow, &c.

Mr. Clarkson had acted as District Surveyor for North Chelsea for over seventeen years when in 1903 he was appointed to the same position for the Royal Borough of Kensington. On taking up the new appointment he retired from private practice.

Mr. H. D. SEARLES-WOOD [F.] writes:—

A forty years' friendship with Clarkson has left an impression of a distinct personality. The ponderous body contained an alert mind; and a mordant humour, wide reading, and a good memory made him an interesting companion.

I look back on the memories of many happy hours spent in his society, first at St. Albans, where he lived with his mother, and at the Abbey where we used to browse, with Froude's *Annals of an English Abbey* in our hands, before Lord Grimthorpe earned the curse that concludes the essay, and since 1876 at every annual excursion of the Architectural Association.

Clarkson had a wonderful knowledge of England, and his maps and annotated and corrected Murray's Guide-books were most useful in making out the programmes for these excursions. One of his hobbies was to climb to the highest points in the districts we visited, and, bearing in mind his physical disabilities, the energy he displayed in this was characteristic of the man. After he got his breath at the top of the hill or tower, map in hand, he identified each place in the wide prospect, especially the high hills, and about each he had something interesting to say from actual personal experience.

His biting humour was delivered in a mild voice, his head slightly inclined to the left and his eyes raised, and with an abstract look which gave the cutting words a peculiar force as he finished with a quiet chuckle, but there was no intended cruelty in the remarks, and during the forty years I have known him I have always been struck with his friendly feeling to all the architects that he came in touch with. He had a sound knowledge of his profession, with a real instinct for the archaeological side, and all who associated with him will, I am sure, feel with me that in his death we have lost a real friend.

H. D. SEARLES-WOOD.

The late Samuel Douglas Topley [A.]

Mr. S. Douglas Topley, whose death occurred from pneumonia on 31st March, at the age of thirty-one, was the third son of the late Mr. Samuel Topley, of Blackheath. His professional education began in the Architectural School of the Goldsmiths' Institute, New Cross, and he was afterwards a student at the Polytechnic, Regent Street. From 1898-1901 he was junior assistant to Mr. Albert L. Guy [F.], from 1901-1905 assistant draughtsman to Messrs. Corbet, Woodall & Son, MM.Inst.C.E., from 1905-1907 assistant draughtsman to Mr. W. Henry White [F.], and from 1907-1909 chief architectural assistant to Messrs. Corbet, Woodall & Son. He passed the Special Examination of the R.I.B.A. and was elected Associate in 1910. He was afterwards associated in partnership with Mr. Paget L. Baxter [A.] at Palace Chambers, Bridge Street, Westminster. Works carried out by the firm include Orchard Cottage, Warlingham, Surrey; houses and cottages at Leiston, Suffolk, for the Leiston Gas Company; and show-rooms and offices at Norbury for the Croydon Gas Company. Mr. Topley was much interested in the political questions which have agitated the architectural profession in recent years. A clear thinker, an able speaker and debater, he took a prominent part in the debates at the Institute on the Registration and other questions. He was elected to the Council in 1914, and had done in that capacity much useful Committee work.

Members' Tribute to Mr. Topley.

Mr. E. GUY DAWBER, *Hon. Secretary*, in formally announcing Mr. Topley's death at the Meeting last Monday, said: There is something inexpressibly sad in the death of a young man starting on the threshold of an honourable career. To most of us in this room Mr. Topley will be known by the remarkable ability which he always showed in debate. He took a keen interest in the affairs of the Institute, and especially in those matters relating to registration. He was a very keen opponent and an admirable debater, and yet he was always most punctilious and courteous. He had the courage of his opinions, and in this room and in the Council chamber he never hesitated to express what he thought, and what he felt was the right thing. The Council, who had known him for the last six months, found him a most able and willing worker. He helped on all the Committee work most energetically, and during the short time he had been with us he had won our deep esteem and our highest regard.

From Mr. R. GOULBURN LOVELL [A.]—

Topley represented the highest ideals as to the profession and of the Royal Institute. He strove for its domination outside and for the domination of its members inside. His first concern was for the absent member: the man who could not claim a hearing in debate had always his champion in Topley. By his logical mind and clear statement of facts he carried conviction whenever he expressed the views of himself

and his supporters. His genial courtesy to friends and opponents in debate endeared him to all who knew him either intimately, casually, or only by his printed words. To his friends and to the Institute his loss can never be made good. His work was before him, and there is no one who can fill his place. To know him was to love him; to know of him was to respect him. To realise his loss is hard. The inspiring smile, the suavity of voice and graciousness of manners, will live long in the memory of those whose honour it was to know or even to claim an acquaintance with Samuel Douglas Topley.

From Mr. HERBERT A. WELCH [A.]—

The passing of poor Topley will, I am sure, be mourned by a great many members of our Institute. I had the pleasure of knowing him well, and his loss, at the very early age of 31, has come as a great shock and caused me deep grief. It was but a few months ago that he was fighting at meeting after meeting certain clauses of our proposed new Charter. His clear head and logical mind, as well as his splendid debating powers, were apparent to all who were interested. He fought strenuously in the cause he had at heart, yet never was he ungenerous or carping in his criticisms; on the contrary, he was most careful at all times so to express his views that he gave no cause for pain or annoyance to anyone. His future at our Institute was being watched by many of us with keen interest. He was a fine type of Englishman. Retiring and unselfish in disposition, he never failed to carry out what he felt to be his duty, no matter at what personal sacrifice. The Institute has lost a member who was deeply interested in its well-being, there are some among us who have lost an esteemed friend, but his influence will long be felt by those who knew him best.

From Mr. ERNEST J. DIXON [A.], Hon. Sec., Guild of Architects' Assistants—

Douglas Topley will not be forgotten by those who have known the charm of his personality, his ideas or his methods. Supremely anxious to be accurate and sincere, ardently desirous of the conversion of mere dogma into reasoned conviction, deeply sympathetic with causes that others would have immediately abandoned on account of their infertility, but in which he saw justice struggling against adversity; in all these qualities of sterling character our dead comrade was as pre-eminent as he was esteemed. His ability and eloquence will be missed by all, and the loss of his counsel deeply regretted.

One who has felt the influence of a kindred spirit in the endeavour to spread unpopular notions, who has known the bitterness of isolation in principle and the difficulties of presenting a united front in the face of unyielding prejudice and apathy, can now bear testimony to the value of unselfish support and helpful interest. During five years of much strenuous work on the Council of the Guild of Architects' Assistants, Douglas Topley was foremost in all the activities of

that body. His comprehensive view of the Assistant's position and the memories of enthusiasm so often displayed against injustice, or of prejudice to future justice as shown in his attitude to some of the Registration proposals, cannot be lightly consigned to oblivion by his colleagues. Endowed with sincerity of sentiment and nobility of thought and expression, his defence of the Associate and the Assistant will be vainly demanded by a future which will lack an eloquent advocate and a tactful adviser.

The late Philip Webb.

The death is announced of Mr. Philip Webb, the architect, which took place on the 17th April at his residence, at Worth, Sussex. We are indebted to *The Times* for the following notice:—

Philip Webb was born at Oxford in 1831, the son of Charles Webb, a well-known doctor in that city. At the age of fifteen he was articled to an architect at Reading, with whom he served an apprenticeship of some four or five years. His father died in 1848, and on the termination of his articles young Webb obtained employment in the office of Mr. G. E. Street, then in Oxford and afterwards in London, with whom he remained as chief assistant for some years. While in Mr. Street's office he met William Morris, and formed the beginning of a friendship which was only severed by death.

Morris, then a young man with leanings towards the architect's profession, became a pupil of Street's, and although he soon abandoned the idea of becoming an architect, the friendship with Webb ripened under the influence of a common love of architecture and a perception that its study included more than was likely to be found in an architect's office. Both before and after the formation of the firm of Morris and Co. they did much work together; among the early productions of this kind may be mentioned the adornment of the dining-room at South Kensington Museum, which was done about 1867; but before this, in 1860, Webb had built the Red House at Upton, in Kent, for Morris.

His growing private practice put an end to Webb's immediate connection with the firm of Morris and Co., but not to the fruitful influence which the friends had on each other's life and productions. Between 1860 and 1900 Webb built some fifty or sixty houses and one church, that at Brampton, in Cumberland, the uncompleted tower of which he designed after his retirement in 1905—his last piece of architectural work. One of his largest works was Clouds, the residence of the Hon. Percy Wyndham, near Salisbury, which was finished about 1886 and rebuilt after the fire in 1890. He built a large house for the present Lord Carlisle in 1868 at Palace Green, Kensington, another large house at Rounton, in Yorkshire, for Sir Lothian Bell in 1875, and many houses in Surrey.

He also made many important additions to old houses, a kind of work in which he delighted. One of these was a large addition to Forthampton Court, near Tewkesbury, in 1891. His work included, in addition,

much decoration of various kinds, and he made many designs for wallpapers, tapestries, tiles, and other things. In all these he made most complete and often very beautiful drawings, often, too, making studies direct from nature. His designs may be said to echo mediæval styles, though never imitating any one in particular; they showed always a stern dislike for trivial or meaningless ornament. With Morris he founded the Society for the Protection of Ancient Buildings. He also took some part in the Socialist movement during the years in which William Morris was making his bold fight for public reforms and was writing *John Ball* and *News from Nowhere*. Mr. Webb retired from business in 1900 and settled at the little village of Worth, where he occupied a cottage on the estate of Mr. Wilfred Blunt.

The funeral took place at Golders Green last Tuesday.

COMPETITIONS.

Whitehaven Housing Scheme.

In consideration of the following undertaking contained in a letter from the Town Clerk of Whitehaven, dated 30th March 1915: "With regard to the appointment of the author of the design placed first as Architect of the buildings, the intention of my Committee has always been that the successful designer should be the Architect unless there was some objection to this being so"—the Competitions Committee of the Royal Institute of British Architects desire to withdraw the warning to members against this Competition which has been published in the *Institute Journal* and the *Professional Press*.

IAN MACALISTER, *Secretary*.

14th April 1915.

MINUTES. XII.

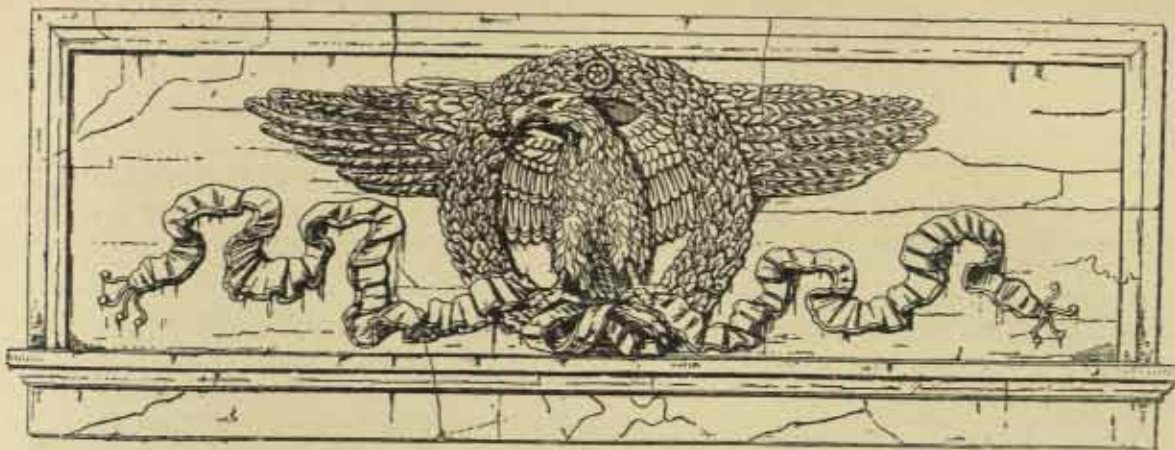
At the Twelfth General Meeting (Ordinary) of the Session 1914-1915, held Monday, 19th April, at 8 p.m.—Present: Mr. Ernest Newton, A.R.A., *President*, in the Chair; 24 Fellows (including 6 members of the Council), 23 Associates (including 2 members of the Council), 7 Licentiates, 1 Hon. Associate, and several visitors—the Minutes of the Meeting held 29th March 1915, having been published in the *JOURNAL*, were taken as read and signed as correct.

The Hon. Secretary, Mr. E. Guy Dawber, having announced the decease of Samuel Flint Clarkson (elected *Associate* 1869, *Fellow* 1885, placed on list of *Retired Fellows* 1910) and Samuel Douglas Topley, Associate-Member of Council (elected *Associate* 1910), it was Resolved, that the regrets of the Institute for the loss it had sustained by the death of its esteemed members be recorded on the Minutes, and that a vote of sympathy and condolence be passed to their relatives.

The decease was also announced of William Henry Duffield (elected *Associate* 1882, *Fellow* 1898), Ernest Day (elected *Fellow* 1889), and William Basil Stefanoni (*Licentiate*).

Mr. Segar Owen [F.] read a Paper on THE DESIGN AND CONSTRUCTION OF BUILDINGS FOR INDUSTRIAL PURPOSES, and on the motion of Sir William Lever, Bart. (*Hon. A.*), seconded by Mr. Matt Garbutt [F.], a vote of thanks was passed to him by acclamation.

The proceedings closed and the Meeting separated at 10.10.



THE DESIGN AND CONSTRUCTION OF BUILDINGS FOR INDUSTRIAL PURPOSES.

By SEGAR OWEN [F.].

Read before the Royal Institute of British Architects, Monday, 19th April 1915.

THE subject-matter of my Paper to-night could readily be divided under many heads, any one of which might be treated so as to occupy the whole time at my disposal, and again each of these heads be subdivided and enlarged upon. I mention this because I can only travel from point to point, hoping that I shall single out the main details of interest that arise in each, and thus review my whole subject in such a way as to be fairly comprehensive and complete. Possibly, and indeed I must, touch upon very elementary subjects, and even may not bring any new matter before you; but such as my Paper is, it represents what I am finding necessary to keep always in mind, so that as circumstances arise I may be ready to meet, apply, and adapt them to the conditions of building as we now understand it.

To the factory architect are offered many great and absorbing problems, and only in the case of prohibition through cost are we ever supposed to be confronted with the impossible. Somehow or other we are called upon to meet various conditions and develop them upon the lines required for the undertakings we are engaged upon; and if we accomplish this, as a rule the ultimate forms are left to us to deal with without restraint.

The middle of the nineteenth century probably saw the greatest activity in factory undertakings. These buildings throughout the United Kingdom are familiar to everyone. All much of the same type of design, somewhat dull and uninteresting, but always of a solid, heavy type, as reflecting the character and solidity of the businesses carried on therein, they stand to this day, still performing useful work. As a rule they are constructed of local material, but in none of them did it appear as though any very great thought had been expended upon the convenience of the employees.

What a change there is between these factories and those which have been erected during the last twenty to thirty years! Throughout England there are to be seen undertakings erected in this period which show that the capitalists have tried to place their people in buildings and surroundings that must influence, and for the better, the lives and ideals of their workpeople. No longer are the factories dark, insanitary, draughty, and barn-like structures; but bright, open, thoroughly ventilated and warmed, and with administrative conveniences adding materially to the comfort and well-being of the employees. In addition to this, social clubs and institute buildings form almost a necessary part of the present-day factory.

The most marked change between the early factories of the nineteenth century and the present time is not, however, only due to the better housing of the employees, but to an entirely different mode

of construction and material employed in the buildings themselves. The older factories were of small spans as regards covered area, with wooden roof principals and floor beams, and with more or less adequate fire-escape arrangements. Timber was the usual, and practically the only, material to bridge large spans; bricks and mortar the usual wall construction; slung floors were usually of timber; special beams cast-iron, columns of the same metal. With the introduction of iron—and, at a later date, steel—spans increased rapidly, until to-day they are almost unlimited. Floor girders and joists, wall stanchions and roofs are of steel. But perhaps the greatest changes in modern factory construction have been brought about by the introduction of steel and concrete, used together for walls, roofs and floors, and combined in such a way that almost any peculiar form of building necessary to a certain process can readily be carried out.

I hardly think my subject entitles me to consider the Works Site, but I should like to say a word on the question of the width of roadways dividing the factory buildings. In so many factories these are to be found of varying widths from 26 feet to 40 feet. Such spaces seem to me totally inadequate for present-day requirements, especially where sidings run through these roadways. There are undoubtedly occasions when as much as 200 feet between factories is not too much. The average works cannot face the loss in acreage that would be the result from a width of 200 feet, but I would like to fix a minimum of 100 feet; and should this space at first not be wholly occupied by sidings, power mains, etc., the space between the paved roads can be sown with grass until the time arrives that this space is demanded for traffic, or other works equipment; and we cannot overestimate the value of these wide roads as fire screens.

The various buildings comprising the usual factory undertakings may be roughly stated as follows:—Office and Administrative Department; Raw Goods Stores; General Factory Buildings; Warehouses for Finished Goods; Power Plant Buildings, including Boiler House, etc.; Attendant and By-product Buildings.

Our aim in the planning of such a factory must be the arrangement of these various buildings, and the departments comprised in each, in such order as to ensure the passage of the raw materials, entering from one, two, or more sources of supply, through the successive shops until the goods reach their final state, and are stored in the warehouse, for distribution to the customer. This passage of the articles under manufacture must, if possible, be arranged without re-entering or re-crossing departments through which in course of manufacture they have previously passed. Such a process in many cases means a simple arrangement for passing the goods from one side of the building to another, or from the top of a many-storeyed building to the bottom, but in factories where the goods are partly manufactured or handled in the various shops and completed or assembled in others, the scheming to bring each department successively within touch of the other requires care and thought in planning; and for this purpose it is essential for the architect to make himself generally acquainted with the process of manufacture in each case.

I propose now to offer one or two observations on the planning of some of the departments given in my list, and then to review generally the forms of construction applicable to the factory. We could, in discussing these buildings, cover a ground as varied as the commercial enterprise of this country, but you will readily understand in this again I must generalise my remarks.

It would serve no useful purpose to consider the Office part of the factory buildings to-night. From the office which is often formed out of the building contractor's or clerk of works' office, works temporary sheds, to those offices costing thousands of pounds, standing back in gardens of their own, represents a field of architectural activity most varied and interesting, the latter conditions showing that desire on the part of the directors to house their staffs in surroundings that partake of the success and virility of the business they are engaged in.

The Administrative Department must not be confused with the General Office just mentioned, but is a departmental office concerned in the management of the factory itself, and generally includes

the following:—Time and Wage Office; Cloak-rooms; Bath-rooms and Latrines; Clothes Drying-room; Rest Room; Surgery; Manager's and Clerks' Offices. This block must be placed at a point most convenient to the factory building it serves, and in such a situation as to allow of the rapid distribution of the workpeople to the several departments in the building. Such position may be either the corner, the side, or in the centre, and as far as possible arranged so that the workpeople can reach their own particular work by galleries or passages, without traversing the floors of a shop in which they are not engaged. The relative position of the Administrative block with the Works entrance is not of importance, except that, where possible, sidings should not have to be crossed by the employees.

In factories made up of a large number of large isolated buildings, or in single factories covering a considerable area of ground, it is desirable to divide and duplicate the Administrative Department. In plan, it should include a large Assembly Vestibule, out of which opens the Wage and Time-checking Room. This vestibule provides proper accommodation for the workpeople to congregate under cover during the few minutes taken in signing on, and on leaving the factory, and also during the time when the wages are being paid. Opening from this vestibule are the cloak-rooms, with lockers for each individual employee. In factories where the hands number some hundreds, an Attendant's Office will be necessary, and this should be placed in full command of the cloak-room, and other offices opening from same. The duty of this attendant will be to check the times in and out during the working hours, and be generally responsible for the cleanliness of this department. If space is available, each line of lockers in the cloak-room should be set out in such a way that the men and girls passing into the works can dispose of their cloaks without blocking up any of the gangways, and as soon as the whole number of workpeople have passed into the factory each gangway of lockers should be closed in by collapsible gates under the control of the attendant.

The Latrine Buildings should have the walls of white-glazed bricks, and partitions raised some inches from the ground, and to a height of 6 feet or 6 feet 6 inches; plain unmoulded doors; tiled floors laid with proper falls to gulleys, so that the buildings can be thoroughly cleansed with a hose pipe. Opening from the cloak-room should be the bath-rooms, these formed usually as shower baths, with simple arrangement for hot and cold water supply, the shower enclosed in a small partition off which is a small dressing space. In cases where the process of manufacture requires it, the usual cast-iron bath is arranged for. Again adjoining the cloak-room should be a drying-room, with glazed brick walls and concrete floor and ceiling, the latter having slung rods, with a number of hooks on which wet garments are hung as soon as the employees have entered the works. The room should have a steam battery and fan to circulate hot air through the clothes for the purpose of drying them. A very small room, and small power motor, will enable the attendant to dry a considerable number of clothes during the time the workpeople are engaged in the factory.

The style of Manager's Office (and, if necessary, the Clerks' Office) will depend entirely on the system of departmental management of the particular factory. These rooms where possible should be placed in such a position as to overlook the factory.

There are still two departments required to complete this block—namely, the First Aid Surgery and the Rest Room. For the Surgery a small room is suitable, with tiled walls, tiled floor, having small operating table, couch, medicine chest, antiseptic ointments, bandages, plain splints, with small sink, hot and cold water, electric radiator and electric kettle. Although such a room may lie idle for the greater part of the year, most employers have been only too glad to have such facilities in case of small or serious accidents. As a rule most large works have a properly drilled and equipped ambulance brigade, the members of which are quite capable of attending to accidents until the medical officer can be called to the site. In large works this Surgery would be attached both to the male and female side of the Administrative Block.

The other so-named luxury is the Rest Room. These rooms are required only where girl labour is

employed, and should be as unlike any part of the factory building as possible. They are used by the workers in cases of faintness and sickness, the girls being granted permission on application to the forewoman of their department, and here are permitted to spend an hour in comfortable, quiet, and restful surroundings. The room is under the supervision of a matron attendant.

Other details in planning I shall not at present refer to, but shall assume that by now we have decided upon the class of building that will be required for our undertaking, the general disposition of the buildings, number and height of the storeyed buildings, weights to be carried, and general character of the machinery, and that now we must decide which of the several and usual forms of present-day construction will best suit our requirements.

The following are offered to us for choice :—Brick structure wholly, with wood or cement floors, and with wooden or steel roofs ; steel and brick composite buildings, with wooden or slung concrete floors, steel or wooden roofs ; steel structure ; reinforced-concrete structure.

Some twenty to thirty years ago the forms of composite buildings varied very considerably, and were designed in both iron and steel in peculiar forms for each undertaking. Gradually out of this somewhat chaotic state the designs became more uniform ; joists, girders, and roof principals were catalogued, and almost all forms of major items in the buildings were carried out in a generally recognised design. Girder connections, seatings, and brackets have been further standardised, and perhaps we are now too well supplied by manufacturers and constructional engineers with catalogues of these details, which, whilst forming a constant and convenient reference, are inclined to check research and enterprise in the way of new forms. Be that as it may, the result has been to reduce cost and expedite the work. It is safe to say that the composite building is the one most universally in use, and offers a very varied field for all classes of factories, both of heavy and light construction, and is capable of dealing satisfactorily with the greatest of all former troubles—namely, large spans and heavy loads.

There is, however, another and a newer form of construction that is claiming and demanding very serious consideration at our hands, and that is reinforced concrete. The earlier promoters, for reasons best known to themselves, desired to treat the architect as neither knowing nor wishing to know anything of this science of building. That it is a wonderful science is undoubted, and its ready acceptance on the Continent and in America has enabled many regions of the world to be brought almost into the heart of commercial life. To my mind, bridge construction, riverside piers, jetties, retaining walls, silo buildings, cooling towers, culverts, and the more peculiar forms, are the lines upon which reinforced concrete finds its particular outlet. One hesitates to accept this form of construction for the average factory, on account of the many changes that are constantly being made, especially as regards machinery. These changes invariably lead to the cutting of floors, rearrangement of loads and points of support, and one cannot get away from the feeling that during these changes the cutting of a main member might possibly mean a partial collapse.

The ideal factory for reinforced concrete is one made up of units of space and loads as regards floor area and machinery, each floor being set out without much possibility of change. Fire-resisting, temperate, vermin-proof, these buildings form excellent stores, and where carriage of large and heavy girders to the works site is a big item of expenditure, a considerable saving can be made by this form of construction. As regards the exterior design of a reinforced-concrete factory building, I would suggest that it be of a block type, straight piers, beams and lintols, with the cornices and strings on a simple, bold line.

In the construction of the modern factory, we consider the walls only as a means of enclosing a covered space to protect it from the weather, and possibly to give some support to more or less important floors and details of plant. It is quite true that in buildings of no great height and of no great storage weight, the walls as piers between the windows still perform the office of weight carriers ; but as floor loads have increased, and spans and openings widened, the concentration of the

load on to the brickwork between the windows has been too great to be safely carried by this material, without a considerable increase in the size of these piers, and the consequent loss in floor space and window area. This concentration of load on to the piers brought about the substitution of the steel stanchion as the weight carrier, and at a later date the building up of a skeleton steel structure of outer and inner stanchions, floor girders and joists, with steel window lintols and sills. Such a structure gives a maximum strength, in a minimum of space occupied by the supports, and has also a great advantage in quick erection, and of carrying strong and suitable attachments for plant or load carriers. These skeleton structures are afterwards clothed with a skin of brickwork or concrete between the main uprights, and in other ways covered to suit the wishes of the proprietor.

It is, of course, not every factory where the loads on the outer wall necessitate anything more than the ordinary brickwork, and in the matter of appearance there is a great deal to be said for those factories where the outer walls are still carrying their share of the load, and represent a reasonable proportion of solid brickwork to window opening. The appearance of a steel structure very often represents nothing but one continuous sheet of glass divided by the widths of the stanchions themselves.

Sometimes the steel structure stops short at the first or second storey, but I prefer to carry up the outer stanchion to the roof, as an additional means of stiffening the whole structure against wind pressure. Such buildings are carried to spans of varying widths up to 150 feet, and to heights from 50 to 80 feet, the larger dimensions being very familiar to us all as required by large steel or iron works, bridge building, engineering, ordnance and foundry undertakings; I propose later to describe one more particularly, with the attendant departments.

The construction and finish of factory floors is a matter requiring care and experience. To-day we have constantly brought to our notice different forms of floor construction—fire-resisting blocks, patent joists, etc., but I believe most of us prefer to use the ordinary steel joist and concrete-filled floor, and, in special cases, girders with concrete filling, boxed out and strengthened with mesh metal. It is unnecessary to state that the weights of the loads to be carried must be most carefully calculated, so that there will be no straining of the structure, and the surfaces of the floors must be properly prepared to take the finishing necessary for the special class of factory we are dealing with at the moment. These finishings may be roughly taken as follows:—Engine and Power Stations, hard tile; Boiler Houses, blue brick; Chemical Factories, blue acid-proof brick, with acid-proof asphalt; Factories, granolithic paving, asphalt, and wood blocks.

For a large type of engineering works, creosoted blocks of redwood, 12 inches by 7 inches by 3 inches thick, laid on a 6-inch bed of concrete and 6-inch to 9-inch bed of ballast, the blocks afterwards grouted in cement, form an excellent floor, presenting a yielding surface to falling fittings, comparatively speaking cheap, and warm to the feet of the workers. A more expensive floor for the same class of building is formed with the usual street paving wood blocks, 9 inches by 3 inches by 4 inches thick. For a factory where more delicate manufacture is carried on there is nothing at the present time that approaches maple wood block. Trucking and hard wear come alike to this excellent timber. These blocks must be laid when the shops and the concrete are thoroughly dry, as it is a timber that will absorb any amount of moisture, and will then expand to such an extent as to lift itself from the concrete floor floating some three to four feet—that is, if held tight at the walls. I have seen these blocks expand to such an extent that they have pushed out the door sills with the door frames. The life of such a floor seems to be endless, and nothing seems to disturb it or cause the grain to rise and give the surface an appearance of roughness. Instead of maple wood block, boards of the same timber, laid and nailed to fillets embedded in the concrete, form an excellent floor.

Concrete floating, granolithic paving, and tiling, all have their various uses in one or other part of the factory, but whatever be the material used, it should be of the best quality—if timber, well seasoned—and laid in a workmanlike manner, as hardly any part of the factory is subject to the same

wear as the floor, and therefore causing a greater inconvenience if it should break up and require renewing.

The roof of a factory is, perhaps, the most interesting detail we have to consider. I do not propose to discuss the different types of roof principals—these have become practically standardised—but I shall refer to one or two peculiar forms that I have often found it necessary to employ. When called upon to erect a factory in a district with which I am not familiar, I generally apply to the nearest Observatory for the records of winds and gales, also for particulars of rainfall. Such information is most readily given, and one has then the satisfaction of calculating all details on a sound local basis. In connection with these Observatory details, on two occasions after the factories were completed the Observatories were good enough to write stating that gales had just occurred greatly in excess of any previous record; and therefore, in view of the increased spans asked for, it is desirable that no risk should be run when calculating the strains and stresses for this or any other part of the structure. One must admit that at times roofs and girders give the impression of being extremely weighty, and therefore costly, and perhaps it may be only two or three times in the year that they are strained up to their full load. The roof of the average two or more storeyed building is usually a single span of the ordinary type of principal suitable to the width, with probably a certain proportion of skylight area, and in some cases peculiar details as regards louvre ventilation.

The lighting of large one-storey areas presents more details of interest. The north and east light is the steadiest for factory buildings; and the usual type of roof is that known as the Weaver roof, in which the northerly side is wholly glazed, and the southerly side slated or covered in some other form. The angle of the north pitch is a matter requiring careful adjustment and is governed by the situation of the works, either at home or abroad. In extremely sunny countries the pitch should be about 85° . In England, and in dull climates, and on the western slope of a valley, the angle with the horizontal must be reduced to about 60° . The slated side will be at a pitch of about one-third the span. This angle of 60° may require to be varied in factories where an unusual amount of ventilation is required. As a rule this ventilation is provided in the form of open louvres framed in the ridge of each roof, and running the whole length from parapet to parapet. These louvres project some 2 feet to 5 feet above the ridge. If, then, the pitch of the glazed side is too upright, the outlook from the floor or working level in the shop, and farthest from the skylight, is into this line of louvres, with the result that the shop is unnecessarily darkened. In such a case the pitch of the glazed side of the roof should be reduced, and its exact angle fixed by a trial by diagram. If the shop is one requiring not only ventilation but a very considerable amount of light, the slope of the louvre roofs should also be glazed. The span of these Weaver type roofs varies from 25 feet to 35 feet. It is worth our while for a moment to consider to what maximum limit of span this type of roof may be taken, so as to be economical as regards construction, and satisfactory as regards lighting the shop. Personally, I have no hesitation in taking the span up to 33 feet, but I should call this the extreme limit, and the result in both cases will be quite satisfactory. I have, however, built these roofs to a span of 50 feet for the purpose of housing special machines, and in that case found that although the roof principal members were painted white, and the whole of the north side glazed, the shop was not well lighted, and the saving in cost negligible.

So far we have dealt with the span only of this type of roof. The craving amongst manufacturers for large floor spaces with as few supports as possible brings us to the problem of what cross spacing is required to economically carry these roofs. Again, 30 feet to 33 feet seems to me the economical limit; beyond that special and costly girdering is necessary and is usually arranged as follows: where the larger spacings bring the points of support parallel with the ridge, the girders are carried above the gutter line and the principals of the roof are framed into the lower plates of these girders; but if the points of support are to be across the line of the ridge, then the girders are formed of a Warren type, with the members following the line of the Weaver roof, in which case both the glazed and slated sides

of the roof will be carried through the supporting girders continuously from outside to outside of the factory. The height at the eaves of these one-storey buildings is probably from 16 feet to 18 feet.

All gutters for this class of roof must be adequate, say 18 inches to 24 inches wide, strong cast iron, with rebated joints, and fitted with proper boxed cistern outlets. There is no necessity to have these gutters with tapering cast, as they will clear themselves of water to outlets 50 feet to 60 feet apart, and in case of replacement there is then no likelihood of delay and inconvenience due to the necessity of casting a special taper. If the length between outlets is greater than 60 feet the depth and width of the gutter must necessarily be increased. The gutter outlets are connected to the heads of the columns carrying the roof, each column can be conveniently used as the outlet itself, the column head being arranged so that none of the bolts connecting the roof girders will pass through the head itself, and at the base of the column it will be convenient to cast on sideways outlets, with flanged joints, to connect up to outer bends into the ordinary drain, the core of the column filled in with concrete to the height of this outlet, and benched off to throw the water outwards. If, as is more usual, stanchions are used as the roof support, downspouts will be carried in the hollow of the stanchions.

For factories of 120 feet to 150 feet span, and requiring a considerable amount of light, the following form of roof is being largely adopted on the Continent. The principals spanning the full width are formed as light Warren girders, of a depth between 14 feet to 20 feet. On both wall sides the whole depth of the girder is glazed, and from the head of the glazing, from one side to the other, concrete flats are formed, but not over the centre one-third of the shop. These flats are laid with a slight fall outwards. The space left in the centre of the roof is then framed as an ordinary pitch roof, glazed on both sides. Such a roof gives an enormous amount of light into the area covered, and if it is used in a shop where ventilation is very necessary, the centre portion of the roof is lifted from the level of the flat on to framed louvres.

All of us must at times have been confronted with peculiar conditions necessitating special types of roof; but they would be of little interest to mention here, as they are of no general suitability. Plant engineers, for their special requirements, appear to make more and more use of the roof and roof space, and lately I have adapted a roof to carry the cooling tanks necessary for the jacketed cylinders of a large gas engine, the particular case being met by replacing the principals, where the tanks occurred, with properly framed girders carrying between them a concrete flat upon which the cooling tanks were placed.

Having considered the roof principals themselves, the question arises as to the most suitable forms of roof covering. Special houses, such as boiler-houses, acid chambers, or chemical buildings, would require special treatment, but for factory roofs generally it is desirable that they should be boarded, the covering after being either slate or patent roofing, according to position, suitability, and cost. The most successful roof framing and covering for such as the English climate is one framed with purlins some 3 feet 9 inches to 4 feet 6 inches centres, covered with dressed boards 1 inch to 1½ inch thick, tongued and grooved, and laid directly from purlin to purlin, covered with felt, and with vertical and horizontal battens, and afterwards slated. Patent roof coverings have still to be proved, but they undoubtedly appear satisfactory, and are easily laid and quite simple to handle in gutters and around louvres. Concrete filled roofs, either on the flat or on the rake, are usually asphalt-covered, and are quite readily handled and rendered weather-proof.

Before leaving altogether the question of roofs, I must refer to certain difficulties which are experienced with light steel principals, where they are required as supports for special stationary loads, travelling loads, shafting gears and conveyers. For stationary loads, there is no difficulty in so bracing up the members of the principals as to take up the load required without fear of strain or collapse. This also applies to provision for travelling loads. But with regard to their use for shafting fittings, there can be no doubt that they have not the advantage that the old wooden roof had in carrying lines of shafting without any risk or vibration. Pulley brackets and shafting seatings were easily fixed, and

steadily held when the machinery was in motion, the ordinary size of wooden roof members necessary for the roof construction having in themselves sufficient rigidity to form a satisfactory bearing.

With the steel roof, the solid tie-beam of the wooden roof is replaced by a flat steel member, offering little or no possibility of attachment, and in itself being unable to carry any load. It therefore becomes desirable in most works to carry the lines of shafting on the main lateral girders of the roof, but any shafting required in the centre of the bay must be provided for, either by constructing the tie member of the principal as a joist or channel section equal to the load, or carrying it on a specially constructed framework of girders framed and bolted to columns erected for the purpose, and in that case standing clear altogether of the principals.

I have referred frequently to roof glazing, and in all cases I have had in mind the many excellent forms of patent roof glazing which are turned out by English manufacturers. Most of the patentees have carefully considered the subject, and can now with equal facility glaze their bars into timber, steel or concrete connections, and provide an excellent form of weatherproof glazing even with a pitch as low as one in thirty. Rapidity of execution, easy renewals of broken sheets, and renewals of special parts are not the only advantages. By special arrangement of the bars, one can be certain that condensation will not drop from the roof on to the floor beneath; this is a matter of very considerable importance where the manufacture of certain articles is carried on in shops where a certain amount of free live steam or vapour is given off. Where possible, the sheets of glass should not be of greater length than 9 feet, though if required they will be provided up to 11 feet. The glazing of a very considerable amount of Continental factory work is carried out with plain T section bars, the glass being puttied into the rebate. Such a system would certainly not be watertight for any length of time with such a climate as we experience in England.

No one nowadays undertakes the erection of a factory where valuable machines are installed, and the product of the factory is of considerable value, without installing a system of fire protection sprinklers. A large tank, standing at a point at least 16 feet above the ridge of the highest building that is to be fitted with sprinklers, is a familiar landmark in any manufacturing town. As a rule, these tanks are filled from the town water mains, but in districts where the head of water is not sufficient to rise to the tank, a set of pumps is installed, which become operative as soon as any of the sprinklers are open by the action of a fire. Time and again one sees the result of the sprinklers after an outbreak—as a rule showing that the fire has been got under almost within a few minutes of the outbreak, and little but local damage has occurred.

I should not dare to offer here in London, with your stringent regulations as to fire risks, many criticisms or suggestions on this head. Certainly in that monumental Building Act the greatest care has been expended in tabulating conditions that should localise and restrict as far as possible any outbreak of fire, and although these conditions impose a considerable amount of cost in the erection of the factory, we ought not to quarrel with the intentions of those who have drawn up this Act, though we may question the necessity of some of the regulations. Shortly, if the conditions of the London Building Act were generally followed, at least as much as possible would have been done in the construction of factories to lessen all fire risks. Position of works, and locality, do not, however, always require such exacting regulations, nor will costs always allow of more than the merest necessities. Hydrants, hose, reels, boxes, sand-boxes, etc., must always be supplied in greater or less quantities, according to the trade carried on and the risks involved.

Probably under no condition can an outbreak of fire be more readily controlled or localised than in a one-storey building. As a rule, there is ample opportunity for employees to escape into adjoining shops, or into the open, and for the clearing of all combustible material from around the fire area. On the roofs covering these areas there must be no unnecessary obstacle that will impede the assembling of hoses and reels. Gable ends should be hipped against the outer parapet walls, and if the lengths of roof are considerable, a break at one or other of the dividing walls would probably be an advantage in dealing with a fire. Department divisional walls should be carried up, as required

by the London Act, 3 feet 6 inches or 4 feet above the adjoining ridge or line of gutter ; and finally, no important works building should have overhanging rafters at the eaves. I mention this condition because within the last few years I witnessed the fire of a very large seed warehouse, and unless I had been present I could hardly have believed how quickly the exposed ends of the spars and boarding would catch fire. As soon as the top storey windows were in flames, once the rafters were alight they carried the fire along the length of the building, and in a very short space of time the roof collapsed. But on this same occasion a still more remarkable demonstration took place bearing on this point. The eaves of a building some 40 feet away, across a works street, suddenly burst into flames from the heat of the burning warehouse, and quickly set fire to the roof of a building which otherwise would have escaped. My opinion at that time was that if both these buildings had had parapet walls the fire would certainly not have spread from one building to the other, and probably not throughout the whole of one warehouse. In the case of high buildings, these parapets are a protection which enables the roofs to be more readily repaired, and with that protection the roof is probably more often overhauled by those under whose care and attention this work falls.

The principles which govern the factory staircase are those which apply to all public buildings, namely, suitability and directness of access. Their position in the works will be governed by a number of considerations, both as regards traffic and purpose, but no circumstances must be allowed to cramp or confine them into out-of-the-way corners. They should be of a width convenient for the numbers using them—and if this means a greater width along the step than from 7 to 8 feet the flight must be divided by suitable plain round handrails with strong iron standards, also with plain handrails fixed on the wall side. No flight should be of a greater number than twelve steps, and these not greater than 6 inches rise, or less than 11 inches on tread. All landings must be full half, and the outlet or doorways at the top or bottom must open into as large a collecting area as possible. In a word, when deciding the position and size of these staircases, one must always have in mind their use in case of fire, when quite possibly a mad rush would be made to leave the building. The doors must open out from the staircase ; and the flights should be well lighted and ventilated from the sides away from the factory. The materials used for the steps should be either stone or concrete ; in some cases, slabs of timber, of not less than 3 inches thick, may be used. Iron fire escape staircases are quite familiar to us all. With these, it is desirable that the risers of each step, so often omitted altogether, should be solid or perforated, to prevent accident to those using the staircases.

Doors and general factory fittings we cannot possibly deal with to-night. With regard to factory windows in the external walls, these vary very considerably according to the class of trade carried on, but probably the most usual form is the large steel or wrought iron standsheet window, which is equally suitable for brick, steel-framed, or concrete structures. With the decrease in the size of the brickwork pier, these windows have been increased very considerably in width, and I have used them to the extraordinary size of 21 feet high by 14 feet wide ; these particular windows requiring a framework of steel behind them, to support them against wind pressure.

Leaving these details of construction, I shall now turn to one or two special buildings of the factory. I referred previously to the shops which are found in large bridge building undertakings. These buildings consist of a central bay of 100 feet span, and some 50 feet to 60 feet in height. The supporting stanchions carrying this roof are also arranged to carry heavy travelling cranes, which run from one end of the building to another. In the case of particularly heavy cranes, the gantry girders sit directly on the head of the stanchion, which at that point reduces in size and is carried up to receive the roof.

Adjoining this main erecting shop, usually on each side, opening out under the gantry girders, are buildings of one or even two storeys in height, of smaller spans, and these act as fitting shops, in which are carried out the lesser parts of the manufactured article which is assembled in the central bay. As a rule, these side spaces are occupied by drilling, screwing and finishing machines, and are constructed wholly in steel, the upper storey being lighted from the roof, and the lower from windows at the side. In

some cases even lighter travelling cranes are fixed in these outer shops, and this handling of goods by crane and lesser weights by runways is a considerable factor in the equipment of works of this character ; and so important in some cases has it become, that the linking up of one line of travelling cranes to another is frequently required and is formed by an arrangement of fixed connecting girder, which thus allows of an assembled portion of any machinery to be carried to any portion of the side or central bay. These structures are, as a rule, not filled in with brickwork, but are wholly glazed on steel frames from pier stanchion to pier stanchion. Such a building is undoubtedly bordering on engineering lines.

The many-storeyed building of a factory may be of such variety that I can do no more than mention one or two general statements on these. The questions of importance, as regards construction, are those of support and floor girders. As regards supports, these in a composite building will be either cast iron or steel, and there is much to be said for both. Cast iron, in case of fire, has properties for resisting the action of fire that steel does not possess, and, on the other hand, steel stanchions will give a rigidity to a building and occupy less space in proportion to the load carried.

Cast-iron columns are now designed with box heads providing seatings and connections for the floor girders and joists in the cap of the column carrying the floor, the column of the upper floor sitting on the top of the box head, on a machine-dressed face. Stanchions are built up and are practically continuous through the floors, with the girder seating connections riveted to the side. As regards calculation for these supports, it is very usual to take an average of floors loaded, and to design the beams on that basis, it being assumed that not all the floors could be loaded at one time—a condition which must readily be admitted ; but although the floors are never wholly occupied, very often the loaded portions are all over the same lines of supports, with the result that in effect the warehouse is fully loaded. The roofing of these large many-storeyed buildings presents no difficulties, either as a series of span roofs or as concrete and asphalt flats.

As regards the Warehouse for Finished Goods, the floor level of this building must be arranged so as to be suitable for loading the goods on to motors or railway wagons, or other form of conveyance. As a general guide, 4 feet above the railway metals is usual ; and on the loading side the roof of the warehouse or a lean-to roof is carried over the first or second line of railway metals, to protect the goods when being loaded. In certain cases of extremely heavy loads, the goods are loaded by cranes running from the warehouse over the sidings, or the trucks entering into a certain portion of the works itself are loaded by the crane used inside the shop.

I will now endeavour to outline the Power Plant Buildings of a factory. Before I do so I wish to say that the power required in the ordinary factory—either steam or gas, or electric power—has in no case in my experience approached a greater total than 10,000 H.P., and that an aggregate of many engines generating the power up and down the works. Beyond this my remarks do not apply, and certainly not to those large central power stations where the whole undertaking is the generation of electrical energy.

It is indeed a large works that requires much over 5,000 to 6,000 H.P., and the lay-out of such a plant falls upon the shoulders of the consultant engineer, whose scheme and engine-bed drawings are handed to the architect to arrange for the construction of the engine house, boiler house, economiser house and chimneys, in the general character of the factory buildings. Whoever dares to risk, in the slightest degree, the proper foundation of buildings of this class, is courting the most serious disaster and assuming a very grave responsibility. There are countless works in this country which make the engine house their "showroom," and there is no doubt that in an orderly and well-arranged power house there is something extremely fascinating, especially where there are several engines all of one power.

The walls should have glazed brickwork or tiled dado to a height of 5 feet or 7 feet. Above this level the brickwork should be some buff or other coloured sound hard brick, carried up to the line of the eaves. All angles should be rounded both at the junction of the walls and floor and on the piers. All floors should be finished with hard tiles. The roof may be either steel or timber ; if the latter, all

members should be dressed and varnished. The roof should be boarded, felted, battened and slated, with a large proportion glazed; and a line of pivot hung ventilators should be provided, all double rebated and opened by screwed gear. Such details in my opinion will add to the life of the engines, and therefore will quickly pay for themselves many times over.

For factory work, probably between 55 feet to 85 feet is the usual width of the engine house. It is desirable that the span should be in one, to cover each set of engines, and the height of the roof such as to allow for gantry wall girders carrying a running crane. Cranes are useful not only in assembling the engine when first erected, but also in case of repairs to the different parts. I am quite aware that they are costly, and it sometimes appears that there is a considerable amount of capital lying idle in them for months together, but when one considers the cost of erecting special gantries to execute repairs of the smallest character, and further the greater certainty in handling the engine parts, and probably the fact that the small repairs would not be tackled without facility of handling, then the money laid out in these cranes appears to be well spent.

In some of the old Lancashire mills engines are still in daily use of the old beam character, and some with oscillating cylinders. Last year I took down an old beam engine erected in 1760; it had been constantly working during that lengthy period. This engine had two vertical cylinders and one slung oscillating low-pressure cylinder. The smoothness with which it worked in its last days, after its long and useful life, would have done it credit at the date it was erected, and made it seem almost a pity to destroy this workmanship of a bygone age. But it had to give way to a new engine of a very considerably increased horse-power.

Some very considerable changes have taken place in the requirements of the Engine House during the past eight or ten years. Most of us will have laid engine beds of solid stone and of solid concrete, possibly with small adjoining cellars or houses formed for the condenser—but at any rate the bed upon which the engine was built was itself solid throughout. Gradually more and more of the space around the engine bed has been required by the engineer, for some pipes or fittings in connection with the machinery, until at the present time the whole space around the bed is formed as an open void covered at the level of the engine bed.

Following upon this, the engine house floor is usually on the first floor level, and the space around the engine beds, at the ground floor level, is left as a well lighted chamber, for the engineer to fix the condensers and other parts. The concrete in the beds themselves is pierced through and through for connections, and is massed where the loads and the shocks are greatest, and in parts reinforced with steel bars to avoid the risk of fracture. The channels thus gained are of immense advantage in building up the engine and making the necessary attachments.

How far the architect is supposed to be responsible for this work it is difficult to say, but that we are looked to to produce solid work capable of great strains and shocks is undoubted; this can only be accomplished by constant inspection of the materials and workmanship, the use of cement well up to standard tests, and having some tradition as to manufacture and durability, the aggregate clean and not too large and of a gritty nature that will bind well with the cement. With these points well in mind, and tests constantly taken, provided the engineer has himself sufficiently calculated the strain on the concrete, the foundation will be a success.

I do not know that anything special calls for attention as regards the Boiler House, more than that all brickwork of walls, beds, and flues must be grouted fully and thoroughly. For roofs, I prefer steel principals, probably with steel angled purlins, covered with slates copper-wired to the latter; open steel louvred ventilators the whole length of the shed, and the roof glazed in a proper proportion to give light over the boilers and to the stokers.

Of the many classes of boilers it is not in my province or knowledge to deal, but it would appear from experience that, for factories requiring a steady head of steam, the Lancashire type seems the oftener to be installed. If so, as a rule it falls to the lot of the architect to carry out the boiler seatings

—usually special seating blocks, which, whilst giving ample support to the boiler, cover as little as possible of the boiler plates, thus giving the gases full play on the heating surfaces. Should the boiler be fitted with super-heaters, the boiler house will require to be of greater span, and the back flues will require certain rearrangements. Economisers nowadays almost invariably form part of the boiler plant, and are placed in buildings of the same character as the boiler house, provision being made for ready access to the cleaning spaces, and ample ventilation above the sets of tubes.

With the question of the system of draught to the boiler flues, we enter upon a subject that is dear to the hearts of the engineers, and it will be for the works consultant to decide which of the usual forms are to be employed—tall chimney, forced or induced draught. I have built foundations for short, low chimneys for an induced draught plant, and certainly it is wonderful the point to which combustion can be brought, so as to give off at the top of the low chimney almost colourless vapours. Engineers in this country appear to prefer the large chimney so familiar in our manufacturing towns. These chimneys require no special skill in designing, but require good foundations and good material, coupled with great care in building. For any great height, no chimney should be built in heights greater than 14 feet at a time, then the work allowed to set ten days before another height is added. This rate of progress should be carried up to the coping.

The firebrick lining should be carried well up the inside of the chimney, and usually formed with a cavity of 2 inches to $2\frac{1}{2}$ inches between the inner lining and the outer wall of the chimney. This cavity it is the usual custom to close at its extreme height in the chimney, but never bonded into the outer wall. At times I have found this inner lining bonded into the chimney wall, with the result that the expansion due to the heat from the flue gases has broken all the bonding bricks, and caused a certain amount of the inner lining to collapse.

The thickness of the outer walls will naturally depend upon the height and diameter of the chimney itself, but in heights of 20 feet to 25 feet the walls will diminish in thickness by half bricks only. The thickness of the top length should not be less than 14 inches. In the outer walls in the height of the chimney, and at intervals of from 10 feet to 15 feet, it is usual to insert galvanised steel bands, formed in four sections, bolted together—the whole band being carefully grouted in cement. These bands are taken up the whole height of the stack, and usually the top one is arranged as part of the chimney cap itself, and I would suggest that, for a factory, the more simple the over-sailing for the chimney cap, the more satisfactory it will be from the point of view of repair.

The smaller chimneys for the induced draught referred to, need not be more than the height of an ordinary Lancashire boiler, or 30 feet; in fact the old boilers with the plates and tubes drawn are often used for this purpose, being lined part way up with firebrick. In some cases, however, these small chimneys are carried up as corner towers of the boiler house or factory.

In most factories it is desirable to consider the ventilation and heating as one plant. Small shops no doubt can be adequately ventilated by means of cross windows, and some form of extractor; but in the large areas of one-storey buildings, it becomes necessary to provide some mechanical means of propulsion that will, by the delivery of an adequate supply of fresh air in summer and fresh heated air in winter, remove the whole of the foul air from the factory. Such an apparatus in a large area may have to be split up into units, but each apparatus consists of a fresh air inlet tower, a heating battery, and fan, with steel ducts running through the roofs delivering fresh air to every point in the factory. By such a system of internal pressure, all openings, doorways, etc., become the outlets for the foul air, and the number of times each hour that this replacement of air is to take place must be decided upon by the class of work carried on in each department. The heating batteries are supplied with steam at a low pressure of 10 to 15 pounds per inch, and the fresh air duct is fitted with a valve that will enable the air in the shop to be recirculated in case of extremely cold weather, or after the week end when the factory has been lying idle.

I do not suggest that every means of opening windows and skylights is to be omitted, even fresh air

distributed by these fans is not like the direct current from without, but on the hottest of days, when there is not the slightest movement of air outside, the fans produce a movement in the shop that is undoubtedly refreshing.

As I said at the commencement, I can touch, and only touch, upon matters many of which might be greatly enlarged upon, and I cannot pretend to have opened out to you any new theories or laid down any definite axioms for future factory design; but I have tried to put before you matters connected therewith that I find occurring daily in work under my control. That the last twenty to thirty years have shown varying changes and marked and amazing progress is undoubted; and I believe that the next twenty to thirty years are likely to see still greater changes and far greater progress. The commercial life of England is likely to be offered opportunities which it certainly has not enjoyed in the years just gone by, and when these opportunities are forthcoming, they may be helped or hindered by the power, or lack of power, which will be with us to meet these situations as they arise, guiding where we cannot command. We shall be called upon to work to many altered conditions, and must turn them to the proper advantage of the commercial undertakings; it is true there may be more interesting and absorbing sides offered to our profession, and that factory undertakings deal more in the science than in the art of building, but if I might venture to offer a word of advice to any students, I should say that they need not hesitate to be engaged upon such work, as it is one of most varying interest.

One personal note I should like to add. My training to this profession has been in direct association with two, both members of this Institute, Sir William Lever and my father, the late Mr. William Owen. To Sir William Lever I owe the opportunities of working out many problems in factory work at home and abroad, and also in connection with a large factory village. I have had, therefore, the advantage of working for one who, I do not hesitate to say, before any others desired to surround his workpeople, both inside and outside the factory, with buildings, houses, and under social conditions which had never been seen before he started Port Sunlight. The factories are bright and clean as any home, the cottages bright within and without, and rivalling in conditions the open air life of any village in the heart of the country. Big problems of finance and commerce were never so overwhelming that Sir William Lever did not give time and thought, and lay out vast capital sums solely and wholly for the benefit of his workpeople. Under such conditions, you will well understand that mere solid problems of weight and stress have a very different interest.

I should have liked, had time permitted, to have referred to several of the Institute buildings which Sir William has erected in his village, and where from time to time collections of priceless furniture, pictures, and china are on view, thus affording the workpeople of his great industry the opportunity of being directly in touch, at their own hearth, with the highest forms of Art that this world has produced. Such a condition will probably never be reached again, but it was amongst these surroundings and conditions that much of my work has been undertaken, and the administrative conditions of a factory which I dealt with early this evening I saw developed under Sir William Lever's own guidance and instructions.

Of my father I can say but little. For a provincial practice, such as is rarely understood in London, he could, I think, have claimed some success. He was a student to the end of his days, and when I first joined him I was struck with the enormous amount of interest and happiness which he obtained from that side of his practice so closely allied with factory work, but I believe he was one to whom the simplest form of building, however plain, was in itself a great joy. Other work found him a greater joy, but I can never forget his keen desire to achieve, and the joy that would come over him in the completion of the simplest form of building if, in his mind, the object of its purpose had been obtained.

DISCUSSION ON THE FOREGOING PAPER.

THE PRESIDENT, MR. ERNEST NEWTON, A.R.A., in the Chair.

SIR WILLIAM LEVER, Bart. [*Hon. A.*], in proposing a vote of thanks for the Paper, said that Mr. Owen mentioned that he had not advanced any new theories. That, he thought, was the strength of Mr. Owen's position. Factory buildings could only be developed by the experience gained by each new departure in the machinery to be installed. His own firm commenced their experience in factory-building in 1886, with Mr. Owen's father; and that experience had been so satisfactory that, although they had had many architects in connection with the village and its institutions, they had never had any architects but Messrs. Owen for their factory buildings. The architect could meet the requirements of the business and of the owners only by an almost lifelong study of the problems involved. As far as their buildings were concerned, it was along those lines that they had been successful in developing their undertaking with the help of Messrs. Owen. But he would like to see more cheapening of factory buildings. Whilst everything in the way of machinery, engines, electricity, and other productive plant was enormously cheaper, the price per cubic foot of their buildings was always advancing. Factories to-day were built much more solidly than was required. A factory built too solidly was not an economical building. A mere change in the process of manufacture, or in the type of machinery, involved probably the scrapping of the old building and the erection of an entirely new one. Engines and factory buildings wanted renewing almost as often as one's overcoat. That was a matter which should receive attention. He could not speak too highly of rest-rooms, surgeries, and general facilities for the health of the employees. At Port Sunlight they had over 2,000 girls in the factories, and every block of buildings had its rest-rooms. They found that the opportunity of using these rooms was never abused. Before the rest-rooms were provided girls were often seen with their heads on the table unable to get on with their work. Now, if a girl needed to go into the rest-room she was back at her work almost directly. If baths and rest-rooms and other modern luxuries—if they could be called such—were provided employers would find themselves amply repaid in the health and vitality of their workpeople. Not only that, but it raised the whole stamp of the people employed. By the adoption of these arrangements he had seen the type of factory girl improved to the type of shop girl, and as the hours were better in a factory, and the factory could be well ventilated and well lighted, he thought that the type of the factory girl could be made superior to that of the shop girl. With regard to planning extensions, there was only one type

of factory building which commended itself to him, that which might be called the "concertina plan." If the site were limited, only the outside boundary walls need be permanent; the whole of the inside divisions, in his opinion, might be a half-brick in thickness; they should be of such a character that they could easily be torn down to enable the departments to be enlarged. People often thought they knew when finality had been reached in a department of the business, and they wanted it built as a separate unit, or as a more or less rigid section of the factory. But there was nothing so changeable as the various departments of a factory: one department shrank and could be reduced, while another department grew and expanded. With fixed walls only on the boundaries all these changes could be made without interrupting the work, and with very little expense. The question of price per cubic foot was one that ought to be reduced to a more scientific level. He had found it to vary in different parts of the country, and in the case of different architects, from 3d. to 8d. per cubic foot. Under present conditions, he supposed 3d. might be considered the irreducible minimum. But the changes from 3d. to 8d. could largely be avoided if the architect would thoroughly study the building of factories and the most economical way of meeting the requirements. There was no greater handicap on a business than an expensive factory building; it had no productive value, and was a serious burden on depreciation, and generally on the expense of output. With regard to the small details of the work, he commended Mr. Owen's Paper strongly, for Mr. Owen had had a long experience, and, as far as he (the speaker's) own experience went, he was in hearty accord with his views. With regard to the risers and treads of staircases, he found some architects past praying for; they made a factory staircase very little better than a step-ladder, and the wear and tear on those who had to use it was very great. On the subject as a whole, he did not pretend to be able to add anything to their knowledge. Each business required its own type of building, and if architects would specialise for different industries in the same way that they had specialised in the various styles of architecture it would be a very good thing. Factory owners were sometimes in a great hurry to get their buildings up; but it was of greater importance to consider all the points in relation to a factory than in a fine Government building in Whitehall. One word as to building restrictions: it should be remembered that London was still the greatest manufacturing centre in the world. They were apt to think that Lancashire and Yorkshire and the Midlands were the greatest; but for the same area

there was no manufacturing centre as great as London. Yet the regulations in force in London all tended to make it impossible to carry out a manufacturing business there. One point in particular he would mention. There were certain sizes of rooms laid down, and if that size was exceeded a division wall must be put up. He had encountered that provision in building a warehouse in London, under Mr. Owen's wise guidance and help, and they were crippled and handicapped with what appeared to them to be a needless multiplication of interior walls, which hampered the transportation of goods from one part of the warehouse to another. These inside divisions made economic control impossible. Such a business as printing, for instance, which should be indigenous to London, owing to the ease of distributing printed matter rapidly, was made almost impossible to carry on owing to these by-laws. Again, they were believers in safety from fire and in taking every possible precaution; but the by-laws had been carried to such a point that factories suitable for economic production could not be built in the City of London. He felt certain Mr. Owen's Paper would be of the utmost possible help to them all, and he had the greatest pleasure in moving a hearty vote of thanks to him.

Mr. MATT. GARBUTT [F.] said he had pleasure in seconding the vote of thanks. He noticed with some satisfaction that Mr. Owen took a conservative view of many of the problems which confront the factory architect; and it was pleasant to note that he had been more fortunate than most architects in being allowed to take a very wisely-generous view of the accommodation proper to be provided for factory operatives. His list of the constituent parts of the administrative buildings contained items which one would like to see everywhere, but very often the client simply would not permit their inclusion in a scheme. He was a little sorry to hear Sir William Lever approve so strongly of specialisation by architects. Might it not be that the man who does not specialise quite so much, and who had a wider outlook than the specialist usually has, would be likely to produce better work all round, and perhaps particularly in factory design? We, as architects, suffered a great deal from specialisation, and particularly from early specialisation. Mr. Cram, when he read a paper before the Royal Institute about American University buildings, commented on the fact that what they call in the States "vocational training" is being, to some extent, abandoned in favour of a return to the old "classical" education, because the latter produces a better practical man in the long run, by giving his brain, in the earlier stages of education, that general training which is almost impossible of acquisition later. Having regard to the length of his Paper, Mr. Owen had said he would not deal with the site, but the speaker took the opportunity of saying that he considered we ought to be able to make use of sites for factories on canal banks to an extent far beyond what is actually done. The canals had been allowed

to fall into the hands of the railway companies, who might be said to "burke" rather than to work them, in the hope that their railways would thereby be helped to monopolise the traffic. Possibly now that motor transport on the roads is becoming so prominent a competitor, these companies might themselves endeavour to develop the canals as auxiliary to the railways, greatly to the benefit of the country. With regard to Mr. Owen's remarks about the materials used, the speaker thought it was not so much a matter of what material was used, as of how it was used. We were beginning to get used to the idea of going back to big baulks of timber for fire-resisting purposes, a method favourably viewed in many parts of the Continent, and one of which we may see more here should Bye-Laws permit. Cast-iron, too, seemed to be coming into its own again. In connection with the use of this material, he remembered one building where a very heavy weight was carried upon a group of Doric columns, of cast iron, about 18 inches diameter, and spaced at about 6 or 7 feet from centre to centre. These, at all events, gave one the idea of very adequate support, and they had done duty for a century, but the scheme might not meet with Sir William Lever's approval, in view of his demands for open floor space. Mr. Owen would have our support in what he said about ferro-concrete; he summed up the factory man's view about it very well. He might have added that the cost, which is so often the determining factor, is against this material in every factory which is subject to much alteration. Sir William Lever could not carry out his principles of factory building in London to any great extent. London was certainly a big manufacturing town, and we had, especially towards the East End, some big and heavy works; but unfortunately such large works seemed to be leaving us. Among other misfortunes, we had seen in recent years the closing of the Thames Iron Works. And any factory at all near to the centre of London must be a building of many floors in height, and thus be restricted to the manufacture of comparatively small and light goods. London itself, by reason of ground values, did not seem a possible place for heavy works; the building and other regulations were also a sore point with us, and these things together are driving factories from the centre to such places as Watford, Edmonton, Tottenham, and even farther afield. In considering a Paper like this, one was impressed with the largeness of the demand made upon the modern architect. The man who was to deal with factories must either have a considerable knowledge of the various businesses carried on in them, or he must work in very close touch indeed with the engineers or other technical men who are engaged in them. Probably a little of both methods would give the best final result. He would like to ask one question. Mr. Owen had referred to "patent roof coverings," particularly as to their junction with gutters and louvres; would he give an instance of the

class of covering he had in mind? As to high factory chimneys, he (Mr. Garbutt) thought that in this country the extremely high type was almost abandoned, except for chemical works and other places where objectionable fumes are to be got rid of. The general maximum height seemed to be about 200 feet.

MR. WILLIAM DUNN [F.], rising at the instance of the President, and referring to Mr. Owen's remark as to the change which had taken place in factory buildings during the last thirty years, said that, personally, he should note a change much earlier. When the factory system came in, the conditions under which the people laboured were so very terrible that it only required a Royal Commission or a Parliamentary Committee on Factories to discover and make known the facts to awaken all that new sympathy which was one of the characteristics of the last century. As soon as the real conditions were discovered, we set to work to remedy them; and he thought that more than all the penal legislation ever enacted was done by the sympathy of our people in bringing about a change for the better; aided, as it was, by the manufacturer, who saw that not only *ought* he to treat his fellow creatures better, but that it would actually be *profitable* to do so. However severe legislation might be in regard to London, he did not think it had ever yet called for rest-rooms or surgeries or bath-rooms or dining-rooms, or other forms of Port Sunlight accommodation. That had been left for men like Sir William Lever to introduce, and many would doubtless follow his example. He agreed with Sir William as to the serious handicap laid by the building bye-laws in London on the trade of the country. He had seen this for a very long time, and it was getting worse, for the bye-laws were imposing more and more restrictions, so that the attitude of the public official seemed to be that of the lady in "Punch" who said to the nurse "See what Tommy is doing, and tell him he mustn't." He was afraid there was no hope for the powers that be; they seemed to have set their minds on Teutonic models. But perhaps one result of the War would be to divert us from that, and we should be allowed to live and build with some of that liberty which has done so much to make the country what it is. We have not made our name great by being governed and directed in every way as to what we are to do, but by having things left to the initiative and freedom of the individual. Mr. Owen had spoken in his Paper about factory roofs. He (Mr. Dunn) remembered that when he was a very young man the roofs were all made of iron, with circular single tie-rods. But since the disaster to the Charing Cross Station roof it had been much more usual to make these of flats and double. And, though he had not much experience of factory buildings, tie-rods seemed now to be made of two angles, back to back, which afforded a very convenient method of attaching at least light shafting to the roof principals. With regard to the very large spans Mr. Owen had spoken of, when he (Mr. Dunn) had to do with factory buildings, the works manager, who laid

out the general plans for the factory, usually proposed a smaller span, of about 20 feet. But in the end it was agreed that about 28 to 30 feet was an ordinary average span for a saw-tooth roof. A factory building was, to the architect, a disappointment; he got a plan from the manager which seemed to present quite a simple arrangement, and he thought it was going to be quite a simple problem, if not an interesting one. But in a short time he was favoured with a large number of drawings of machines, boilers, and other plant to be used in the process of manufacture; and it was his function to duly assemble them all. And as each machine-maker prepared his part with an utter indifference to every other man's, the architect found that his problem eventually was not lacking in interest. He was glad to see that they as architects had got a share in making the lives of their fellow-creatures a little better; and though they could not make the site for a factory to blossom like the rose, they could keep it from being as ugly as it might otherwise have been; they could do something to make it bright and interesting. He was glad they had amongst their British merchant princes some who did what they could in this way, and who gave them as architects an opportunity of having a little share in it.

MR. MAX CLARKE [F.] said he had had some experience in factory work, very limited, evidently, compared with that of which they had just heard. His remarks would form, he was afraid, a series of questions to Mr. Owen, because he always tried to extract from the reader of a Paper as much information as he could. The first question he would ask was where Mr. Owen thought the architect's duty ceased and the engineer's began. The question was exercising him somewhat at the present time: how much responsibility the architect should undertake, how much he should try to assume, and at what point he should call in some additional assistance of a more or less special technical character. And then the question arose: Who should pay for that special information which the architect perhaps did not possess himself, although he might be more or less qualified to design an ordinary factory? His experience in factories had been confined to buildings costing anything from £10,000 to £30,000; and, unfortunately, he had not been permitted to build any of those "rest-rooms," or such-like places. Nor had he been permitted by the County Council to build anything like the building which Sir William Lever would desire. Not only in the "City of London," but in the whole Administrative County of London, the regulations with regard to factories were so severe that the fewer factories that were built in this administrative area the better it would be for the owners thereof. Was he to understand that Sir William Lever and Mr. Owen were not in favour of reinforced-concrete buildings for factories? Personally, he felt that a factory was one of those places that was, as Sir William said, subject to alteration at any moment. After the building was completed clients would decide to put down this, that, or

the other plant; they wanted a wall cleared away, or a girder or stanchion altered; and if the building was of reinforced-concrete the architect was in for a lot of trouble. Referring again to the County Council regulations, he would like to know whether these were looked upon in the provinces as being satisfactory, or whether they were regarded as too stringent. His feeling was that the requirement limiting each division to 250,000 cubic feet was very arbitrary indeed; it had come up against him in his work to such an extent that every time he dealt with a factory of any size, the first question his client put to him was, "Can't you make this division so-and-so in size?" His reply was, "Oh yes, I can apply to the County Council, who can give me special permission to make the building more than 250,000 cubic feet; but if I do, you will not be allowed in the future to make any alteration to that building without the sanction of the County Council." He considered that most arbitrary. He knew there were many people in the room who would not agree with him, but that did not alter his opinion. With regard to staircases, he thought Mr. Owen was liberal. A staircase which had steps of 11-inch tread and 6-inch rise was nice for a mansion, but would take up a good deal of room in a factory. The London County Council, notwithstanding the stringency of their regulations, allowed a 7½-inch rise and 10-inch tread. He had built many staircases, perhaps a hundred, on this basis, and they did not appear to him to be too steep, neither had he found that operatives complained of fatigue in going up and down. He thought some happy medium between those two might meet the case. He should object most strongly to any staircase that was made 7 feet wide for factory operatives; he thought a less dimension and more staircases would be very much more useful and far safer, in spite of the central partitions Mr. Owen advocated. He did not gather from the Paper whether the steps Mr. Owen spoke of were hard-wood or whether they were fir timber. If they were of hard-wood, it would be a very expensive operation to build solid wood steps. He had been concerned in a law-suit which took place recently with regard to the vibration set up by an engine and engine-bed. The engine, not a very large one, shook the whole neighbourhood; about fifteen houses down one side of the street and eleven down the other side were affected. If Mr. Owen's engine was mounted at the first-floor level, how did he counteract the swing of the bed? It was a most difficult thing to do; and he could not understand why they should not have the engine-bed on the ground-floor level and use a pipe conduit. He would also ask Mr. Owen if he had any experience of the modern furnaces, some of which would burn coke breeze and refuse, and not develop clinker on the bar. That point interested him very much, and at the present moment, when they on the Holborn Borough Council were paying 32s. 6d. a ton for their coal, it became a serious item. Some people regard this type of furnace as admirable, but he had heard that the

unsatisfactory feature was the emission of dust from the chimney, which covered the whole area with a deposit of all sorts of rubbish and was very objectionable. Flat roofs for factories were very much more satisfactory than slated roofs; they required much less attention. Even the periodical painting of the iron gutters of slated roofs he had found a very serious expense; getting at them cost money, and the failure of the fixing at times was a danger, but flat roofs were accessible at any time, and very little repair was needed. He thought Mr. Owen might have given them his views with regard to lifts and hoists, because these formed a very important feature of factory buildings. With regard to factory floors, he had found that paving them with Granolithic laid *in situ* was not nearly so good as laying artificial stone slabs about two feet square; because when Granolithic once broke it was almost impossible to repair it satisfactorily, whereas with the slabs a broken one could be taken out and replaced in a very short time. He would also ask Mr. Owen whether he had found a flooring which would resist grease. It was a most important matter in factory construction, because there were factories in which grease largely predominated, and it seemed almost impossible to get a floor which would resist grease for any considerable period. He would also ask Mr. Owen regarding another point on which he had not touched. Did he advocate in these steel buildings enclosing the steel work with concrete? It seemed to him largely to depend on whether they had a "sprinkler" installation or not. The latter was rather expensive, but it rendered the building much more fire-resisting. He had seen a book which he thought would interest Mr. Owen and other members—namely, a Report on the fire which occurred at Edison's phonograph works at West Orange, N.Y., on 9th December 1914, and the behaviour of the reinforced concrete therein. It would be particularly interesting to those gentlemen who advocated the use of reinforced concrete, for it contained illustrations showing the position of the reinforcing bars in some of the members after part of the factory had been destroyed. The Report had been prepared jointly by the National Fire Protection Association in conjunction with the National Board of Fire Underwriters of America. Sir William Lever had spoken about the cost of factories. The cost depended on the nature of the factory. He thought that a one-storey factory could be built in the simplest way for 3d. or less per cubic foot. A factory could certainly be built at this price which would comply with Sir William Lever's requirements—for instance, a corrugated iron building, with stanchions, which could be moved about to any position as desired and with all sorts of half-brick division walls in it—and so long as it was outside the Administrative County of London it would answer all requirements. But when it was a question of a factory to be built in London many storeys in height, and restricted by all sorts of local and County Council regulations, the cost would mount

up to about 8d. He believed that was the maximum, and for that they could do very well indeed. He had great pleasure in supporting the vote of thanks to Mr. Owen. He had heard with the greatest pleasure Sir William Lever's remarks. He was at Port Sunlight once, and made many drawings for an advertisement which Sir William sent out to Chicago years ago, and it gave him the greatest possible interest to see the place. If they had only a few more people like Sir William Lever, the factory-designer would have an opportunity, the operatives would be better housed, they would do more work, and the proprietor would get a better return for his money—in fact, everybody would be more satisfied.

THE PRESIDENT (MR. ERNEST NEWTON, A.R.A.): Before putting this vote of thanks to the meeting, I would like to express my personal thanks to Mr. Segar Owen for his very valuable Paper. It is a mistake, I think, to suppose that a severely practical building, designed only for material ends, is uninteresting to architects. So long as the problem is tackled in the spirit suggested by Mr. Owen, it seems to me that the nice adjustment of parts, and the careful consideration and arrangement of the different departments in absolutely the best possible manner, demand great skill and ability, and that if the varied and definite requirements are met and a building perfect for its purpose results, we get good and even expressive architecture. Mr. Owen is fortunate in having been associated with Sir William Lever, who has done so much to improve the conditions of labour. If Sir William had not devoted his life to manufacture, he would, I am sure, have made his name as an architect. We all know his keen interest in architecture, and all that he has done for it. I remember one day, at Port Sunlight, he told me he always wanted to be an architect. I at once offered to change places with him; but whether he thought I should be unfit to conduct his business, or whether he doubted his capacity to carry on mine, I do not know; at any rate, the offer was not closed with, and I take this opportunity of telling Sir William that it is still open! I have very much pleasure in putting this vote of thanks to Mr. Owen.

The vote was carried by acclamation.

MR. SEGAR OWEN, having acknowledged the vote of thanks, replied to some of the points raised in the discussion. He was afraid, he said, he could not do justice that evening to Mr. Max Clarke's long list of questions. With regard to calling in experts, he could only say that when he had arrived at a point where he felt an expert was necessary, he had never yet had a client who refused to pay the fee if he were given a sufficient reason for calling in an expert. With regard to reinforced-concrete buildings as factories, no general rule was possible; it was a material more particularly suitable for special factories, and generally it should be used for buildings in which no changes would be required. The provision in London concerning 250,000 cubic feet was quite ridiculous in some

cases. In the warehouse Sir William referred to, one wall was within 10 feet of another, and the intervening space was continued up to the top of the building, and was useless. A special representation was made to the County Council, but was refused. With regard to engine beds swinging, it was not suggested that an engine bed received any support from its floor; it must be solid and take up the thrust within itself, even if it were for a gas engine. If when it was put at the level of the first floor it was going to rock on its bed, then the spread and weight of the bed was wrong in proportion to the horse-power. With regard to lifts, he had found it difficult enough to get what he wanted to say into a little over an hour, and if he had dealt with lifts he should have kept the meeting longer still. With regard to the best oil-resisting material for flooring, he had it from Sir William Lever that granite was perhaps the best. If for a small area, very hard vitreous tiles would resist grease. He agreed with Mr. Garbutt that the average height of factory chimneys was now about 200 feet. As regards costs, he thought it was labour and by-laws which were their trouble at the present time.

MR. PERCIVAL M. FRASER [A.] writes:—

In making the following criticisms on Mr. Owen's Paper, I might mention that I suggested the reading of such a Paper last session when on the Practice Committee. I understood that the Council rejected this suggestion, and was agreeably surprised, therefore, to find a Paper was to be read by a gentleman of special experience in this class of work, the subject being one which has not been dealt with in any form in the Proceedings of the Institute. It is certainly one which takes a very important place in the architectural activities of the present day, and it is amazing that there is no book in the Institute Library dealing with any branch of the subject.

The first general criticism I would make on Mr. Owen's Paper is that the lack of illustrations considerably depreciates its practical value, and that its worth would have been greatly enhanced even if it were illustrated only with diagrams.

I would question the advisability of a minimum road width of 100 feet. Such an unjustifiable waste of space would not be tolerated in any populous district. From this, and other indications in the Paper, one cannot help feeling that Mr. Owen's field of action, though comprehensive and important, has been nevertheless limited to the Port Sunlight Scheme, where a number of amenities obtain which it would be misleading to lay down as general rules.

The author came rapidly down to the detail which he so much endeavoured to avoid, in describing so minutely the Administrative Department, which from the architect's point of view is comparatively unimportant. In this description, however, he omitted to mention a vital factor, and one which greatly influences the planning of this department—namely, the

necessity of segregating the sexes, upon which some hints would have been very welcome.

With regard to the formation of social clubs and institutes in factory buildings, most attempts to instal anything of this sort are abortive. This more particularly applies in populous districts, and in my experience I can cite many cases where the buildings erected for this purpose were eventually either taken down as encumbrances, or used for workshops or stores. Even messrooms, which have for their object the convenience and comfort of the workpeople, and indirectly may save them considerable expense, are by no means popular, and are better avoided, unless proved to be necessary.

A Member asked Mr. Owen the pertinent question as to whether he would recommend ferro-concrete for factory buildings or not, as this is not clear from the Paper. I cannot find any practical guidance on this subject, which is of the first importance to architects engaged in factory buildings. It is lightly touched upon in two paragraphs where the only recommendation for its use appears to be for stores. The other constructions for which the author mentions ferro-concrete as being suitable are those which scarcely come within the architect's ken.

In weighing the advantages of brick buildings, the author might have mentioned the value of heavy walls and piers in absorbing vibration where moving machinery is situated on floors above the ground.

With regard to pavings, the author recommends maple blocks, but this paving is a hundred per cent. more costly than the many jointless pavings known by the generic name of "stonewood," which possess all the advantages of maple flooring for factories. There are other forms of patent floorings on the market of the granolithic type, which are invaluable for heavy wear, and are economical. The particular pavings mentioned by the author are so well-known as to be scarcely worth setting forth.

Cast-iron valley gutters are recommended, but these are not so good nor are they cheaper than asphalt gutters.

The plan recommended by the author of using the internal columns as down-pipes, is one which cannot be too strongly condemned, and, except in abnormal circumstances, should never be adopted. The best form of roofing for almost all purposes, with the advantage that it is economical, consists of boarding sufficiently thick to span between the trusses (3-inch tongued boarding will span rigidly 12 feet) without the use of purlins. The advantages are: unbroken roof surfaces, good insulation, better lighting effects, no lodgment for dust, slow-burning construction, and appearance; moreover, it affords great advantages for the run of pipes and leads, and for the installation and efficient working of sprinklers.

An excellent material for roof covering, which the author ought to have mentioned, is asbestos tiles and sheets, which are rapidly coming into vogue. They can be obtained in corrugated sheets, and are invaluable

for roofing boiler-houses and stores where cheap and non-combustible construction is essential.

It should be the universal rule to provide T or H section tie-beams to steel trusses, and not the exception, as one would gather from the author's remarks.

In connection with patent glazing, especially where adjoining flat roofs, the glass should be wired—i.e., reinforced with wire mesh. The extra cost of this glass is slight, and is amply compensated for by the saving in breakage and its fire-resisting qualities.

The author appears to advocate sprinklers solely from the point of view of protecting buildings, but, of course, the incentive to instal sprinklers in the large majority of cases is the reduction in insurance rates (amounting to as much as sixty per cent.), which when capitalised constitutes a considerable economy, although in many cases they would cause in action as great damage as an outbreak of fire. Unquestionably the greater number of fires are got under by the use of chemical extincteurs and fire appliances, and if it were not for the corresponding saving in insurance rates, sprinklers, owing to their excessive cost, would be rarely employed.

The subjects of protection against and means of escape from fire are sufficient matter for a special Paper, as they are not commonly appreciated or understood.

A hint as to the selection of fire-bricks for boiler settings would have been acceptable. This material, which the average architect, I am afraid, accepts blindly from the builders' merchant, is one which in a contract of any importance should receive most exhaustive consideration and examination.

One feels that the author is hardly justified in shelving details of doors and windows and similar details in so cursory a manner, whilst, on the other hand, he devotes a considerable amount of space to similar minutiae.

The familiar tirade against Building Acts and By-laws was indulged in, and I regret that the system of limiting discussion at the R.I.B.A. meetings afforded no opportunity to any member to defend these. It is simple and always acceptable to criticise destructively these regulations. They are, however, drawn up for the good of the community, though they must perforce act harshly in isolated individual cases. The real complaint is not against the By-laws, but against those who administer them. In London, where the Building Act is most stringent, building—to the well-informed architect—is not irksome or arbitrary, because administered by duly qualified architects, who have the necessary courage and sympathy to interpret the Building Act for the benefit of the community. District council surveyors, however, have often no technical knowledge, and rarely, if ever, are they qualified to deal with matters of building construction.

The proposed London County Council regulations for ferro-concrete buildings are open to criticism, not on account of their stringency, but because there has been a foolish attempt to govern not only the design

of the structure, but the manufacture of the materials and processes of construction, even going so far as to embody such clauses as the following:—

Concrete shall be kept damp by means of wet sacking or be watered daily, Sundays and holidays included.

Such regulations are, of course, grotesque.

I would like to endorse the author's remarks on engine beds. There are no existing rules or means of calculating engine beds. Engine designers standardise the beds for their machines, based either on a ratio to the horse power, or in proportion to the dead-weight of the machine.

I do not agree with the author that there are *countless* works in this country which make the engine house their show-room. There is a very small percentage indeed which are at all presentable. On the Continent and in the States the greatest pride is taken in the appearance of the buildings in connection with the power plant, which in England are generally disgraceful.

The author laid only too little stress on the necessity of constantly testing materials. The architect who constructs factory buildings will find that he has to rely fully on his materials, and that stereotyped and orthodox safe loads for given materials cannot be blindly accepted if he wishes to give his clients full value for their outlay. There is no doubt that in factory construction the enterprising factory owner is willing to run a fair risk, and the architect who specialises must, in order to prepare an economical design, know his material in every sense of the word. This is a point which Sir William Lever so ably put to the meeting. He said in this connection that he could not understand the increasing cost of factory buildings, but one must make due allowance for the tremendous pressure at which the buildings are worked, involving far more costly construction owing to the concentration of heavy vibrating loads into small areas.

Sir William Lever's remarks as to the standardisation of the cost per foot cube, of factory buildings, were of interest, but it is obvious that valuation per foot cube is and must be grossly misleading, and can mean nothing either to the architect or to the factory owner. A much better method of valuing is per yard super of floor space, and an even better one is the cost per unit of plant, such as is commonly employed in spinning mills and smaller buildings, and which architects employ in church and school buildings in the form of valuation per head of occupants.

A member asked for information as to a suitable paving to resist the action of grease, and I understood the reply was "granite," but in what form this should be used was not clear. Granite is undesirable in the majority of cases for reasons too obvious to mention. The best floor is a hardwood wood-block laid in *suitable* asphalt direct on the concrete foundation *without screeding*. Practically no hardwood will suffer from

the action of grease or fatty acids, and will stand for at least a generation.

In conclusion I would suggest that there is scope for further papers on a subject of which Mr. Segar Owen merely touched the fringe.

Mr. SEGAR OWEN, to whom a proof of the above was submitted, writes:—

I have read with much interest Mr. Fraser's communication with criticisms and suggestions on my Paper, and on some of the points he raises I should like to touch, but I am sure he will readily understand that in a Paper read in the period of one hour one can but "merely touch the fringe" of almost any subject.

With regard both to the width of roads and the administrative departments of works, whilst naturally one is influenced by the ideal conditions at Port Sunlight, I was also speaking from experience gained in a wider field of commercial undertaking, and referred to works certainly not erected in populous districts. As to social clubs and institutes, I have found that in most cases these have been of the greatest advantage to the employees, who make constant use of these facilities.

Patent floorings for factories I have not so far found particularly useful, or of any great advantage over some of the usual forms—which apparently I need hardly have referred to.

In dealing with the subject of roofs, again I could do no more than outline general forms: to supplement these would have been quite possible, and then I might have described many other and cheaper methods of roof framing and coverings.

On the question of the section of tie-member to steel roofs, I note that I made use of the word "flat," meaning "light" steel members, but even the ordinary T or H section tie-beam is not sufficient to steady these principals of large spans where carrying shafting—upon which subject that part of my Paper was dealing.

I agree with Mr. Fraser that the subject of fire protection requires a special Paper, but he is wrong in supposing that I advocated sprinklers solely, as he will notice that in the latter part of my Paper I spoke of hydrants, and other appliances.

I note that Mr. Fraser does not consider that there are many engine-houses in this country that are made the showroom of the factory; some day, perhaps, I may have the pleasure of showing him through a large number of engine-houses in the Midlands which certainly reach the level of showrooms.

As regards firebricks for boiler settings, it will be generally found that locality plays such a large part in the selection of these bricks that any general information would be of only local interest.

Mr. Fraser states that the subject of Factory Buildings is one about which very little has been written, and this is certainly the case; therefore, generally it is experience and contact with these undertakings that chiefly guide one in this class of work.

REVIEWS.

HINDU ARCHITECTURE.

The Ancient and Medieval Architecture of India: a Study of Indo-Aryan Civilisation. By E. B. Havell, author of "Indian Sculpture and Painting," "Indian Architecture," etc. With 176 illustrations and map. 4s. Lond. 1915. 30s. net. [John Murray, Albemarle Street.]

It is not surprising that the task of reviewing Mr. Havell's latest book should have been considered somewhat outside the range of the average professional architect. The Preface and Introduction are devoted mainly to current Indian politics, discussing among other matters "the soundness of the historical basis upon which the statecraft of the British Raj is built"; and a large part of the book is filled by the elaboration of theories about Indian religion, history, and social development which have little obvious concern with architecture, and must be wholly unintelligible to professional architects who take no interest in the problems of Indian politics and religion, although ready to examine a clear statement of the facts and principles of Hindu architecture. So it happens that I have been asked to notice Mr. Havell's book, my life for more than forty years having been dedicated to the study of Indian subjects, both on the spot and in Europe.

The author's method of treatment invites argument and contradiction at almost every page. He is convinced that nearly everybody else is wrong, and is quite free from doubt as to the soundness of his own views. This Journal is not the place for discussing Mr. Havell's notions about Indian despotism, the history of Buddhism, the constitution of village communities, and other non-architectural topics which occupy so large a space in his book. It must suffice to say that there is reason to believe that his opinions in many cases are mistaken, and that it would be easy to criticise them destructively. One particularly aggressive paragraph may be quoted.

"Indo-Aryan art," Mr. Havell observes, "was Greek because it was born of the common parent of European and Indian civilisation. Greek art remained a child always, with childish dreams of life and beauty. Let us ever cherish those dreams of childhood which belong to the springtide of humanity. But the art of India grew to maturity and put away childish things. The art of Gandhara [*scil.*, the well-known Græco-Buddhist sculptures from Peshawar] was her plaything as a child."

Mr. Havell's books all produce on me the impression of glorified pamphlets, written to further certain views or purposes with reference to current controversies, and consequently disfigured by needlessly provocative passages like that quoted. Although the manner of the books suggests the idea of a pamphlet, they exhibit deep knowledge of Indian art, contain pages of real eloquence, and are invariably magnificently illustrated by well-chosen and well-executed plates and figures. Readers who may be offended by the text may always be assured of both pleasure and profit from study of the illustrations.

I shall confine my remarks to architecture only. The book now reviewed, it should be noted, is not a work altogether independent. It is "supplementary to *Indian Architecture: its Psychology, Structure, and History*, which dealt with the Muhammadan and British periods," and was published in 1913. The earlier book is more likely to interest European architects than the new volume, which treats of the ancient pre-Muhammadan Hindu buildings. Practically those extant are all temples or religious edifices of one sort or another. Those buildings, while always extremely curious and original, and often beautiful, are so utterly remote in purpose, feeling, plan, and decoration from European monuments in any style that they cannot well offer suggestions for the guidance of an architectural student outside of India. The Muhammadan edifices which form the main subject of the earlier book appeal much more forcibly to European professional sympathy. Domes and pointed arches are no strangers west of Suez, whereas distinctively Hindu forms seem so outlandish that they leave European students cold, as a rule. Few people can share fully the ardent enthusiasm of Mr. Havell, who is more Indian than the Indians, or even the more chastened admiration of Fergusson, who was the first to prove the right of Hindu architecture to claim serious study on its merits as a noble branch of art, which it is.

The author is right in affirming that Fergusson's classification of Buddhist, Jain, and Hindu temples as representing different epochs of art or different schools of artistic expression is entirely fallacious. The criticism, although true, is not new. Bühler many years ago pointed out that all the indigenous Indian religions use the same symbols, and to a large extent the same architectural forms. It is a mistake to speak of "Buddhist railings," to suppose that *stūpas*, or domed cupolas for the enshrinement of relics or for marking sacred spots, are solely Buddhist, and so forth. I may, perhaps, without undue egotism, quote the remarks on the subject in my *History of Fine Art in India and Ceylon*, published in 1911:—

"But, although all Indian art is religious, it is a mistake to suppose that style was dependent on creed. Fergusson's classical *History of Indian Architecture* is grievously marred by the erroneous assumption that distinct Buddhist, Jain, and Hindu styles existed. Style, which M. Le Bon regards as an affair of race, is more conveniently considered as a function of time and space, varying according to the date and locality of the work. There is no such thing, for example, as a Jain style of architecture. The *stūpas* of the Jains were indistinguishable in form from those of the Buddhists, and a Jain curvilinear steeple is identical in outline with that of a Brahmanical temple. Works of art, including architecture, should be classified with regard to their age and geographical position, not according to the creed for the service of which they were designed."

That passage, I venture to think, lays down a sound principle for the classification of styles, whether in India or elsewhere.

Mr. Havell is rather impatient of the discussion of local or chronological styles or schools. Such discussion is to him anathema, as being merely "archaeological." He concerns himself almost exclusively with the supposed symbolism of Hindu architecture, for which very slight evidence is offered, and loves to give his fancy free play in interpreting the forms of buildings as being full of poetical and philosophical symbolism. "India," he declares, "has never known any style that can be called architectural but one—and that is Indo-Aryan." The name so given implies a disputable ethnological theory, or rather a series of theories. He treats all his own subjective interpretations as proved facts, although they are naturally much less convincing to other people than they are to his poetic imagination.

Mr. Havell sees symbolism everywhere. It was the practice in ancient India to surround a sacred monument or object with a stone railing, which served the commonplace purposes of a fence, and was also supposed to keep away evil spirits. The early plain examples are simply copies of an ordinary wooden post and rails. Some have only three bars or rails, others which the builder made higher have four rails. But to our author the difference between three rails and four is a matter of deep philosophy.

"The three bars of the rail," he tells us, "meant the three positions of the sun, at its rising, at its zenith, and at its setting—and hence a spiritual defence, for these three were the three times of daily prayer—only the Buddhists called them Buddha, Sangha [the Order of Monks], and Dharma [the Law of Duty], instead of Brahma, Vishnu, and Siva, according to the orthodox Brahman formula. Four bars to the Brahman meant the four Vedas, the depository of the sacred traditions of the Aryan race; the Buddhists explained them as the four events in the life of the Blessed One—the Nativity, the Enlightenment, the First Sermon at Benares, and his Death, or *Pari-Nirvana*."

How can Mr. Havell possibly have learned all this esoteric lore, and where is the proof of his assertions? The book does not supply the answers to the questions, and I do not know where to find them if they exist. Similar queries are constantly suggested by many passages. Authority for assertions is given very sparingly.

As a matter of fact, India exhibits examples of many different styles of Hindu architecture, although, of course, all of them have much in common. Those styles vary both locally, from province to province, and chronologically, from age to age. Any author who wishes to make the subject of Hindu architecture intelligible must classify the different forms or styles of building and give them names. Fergusson made the attempt to do so some forty years ago with so much success that his nomenclature has been generally adopted. But, being a pioneer, he naturally made mistakes, of which the most serious has been commented on above. He noticed that Indian temples obviously fall into two main classes. One, which he

called Indo-Aryan, prevails in Northern India and is characterised by the bulging steeple with curvilinear vertical ribs. The other, which he called Dravidian, prevails in the peninsula to the south of the Nerbudda river, and is characterised by a straight-lined tower divided into stories by horizontal bands, and surmounted by either a barrel-roofed ridge or a small dome. Nobody can fail to recognise the obvious differences between the two classes of buildings, and it is certain that examples of one class very rarely intrude into the province of the other. The distinction consequently affords a convenient and reasonable mode of classification in accordance with undisputed facts. The name Dravidian, when understood in a territorial sense as equivalent to South Indian, is unobjectionable, but the name Indo-Aryan is open to criticism as implying controversial theories. It would be better to substitute for it the non-committal term Northern or North Indian.

Mr. Havell, while unable to deny the patent fact that the "vertical" form belongs almost exclusively to Northern, and the "horizontal" form to Southern India, refuses to regard the distinction as one of style. Both forms according to him are "Indo-Aryan," and differ only in their symbolism, the "vertical" form expressing the idea of the Deity conceived as the beneficent, protecting Vishnu, and the "horizontal" form expressing the idea of the Deity conceived as the terrible, destroying Siva. He thinks that the geographical distribution of the two forms is accounted for by the alleged preference for Vishnu worship in the North and for Siva worship in the South. He goes on to say: "As a 'Vishnu' shrine may be Buddhist, so it may also be Saivaite, for Siva to Saivaites is Brahmā, Vishnu, and Siva. It is the image for which the shrine is built which determines the form of the latter." The doctrine is not easy to grasp, and certainly fails to afford a basis for the convenient classification and study of the actual buildings. It is, moreover, founded on various disputable and unproved assumptions which cannot be discussed here. It is impossible to study scientifically, that is to say, systematically and accurately, the architecture of a vast country, including remains extending over more than two thousand years, without the help of a simple classification and manageable nomenclature. While we may recognise that an Early English church exhibits much the same symbolism as a Perpendicular one, we need to distinguish the two buildings as diverse architectural forms, and similar necessity is felt in discussing the architecture of any country. In India, both the Northern and the Southern styles have each many subdivisions, while intermediate forms also exist. It is impossible to go into details here, but I may note that M. Jouveau-Dubreuil in his valuable work, entitled *Archéologie du Sud de l'Inde* (Paris, 1914), distinguishes five sub-styles in a portion of the peninsula, namely, Pallava, Chola, Pāndya, Bijanagar, and Madura. Similar subdivision is necessary in the North.

Only one more topic can be briefly noticed. Mr. Havell holds that Indo-Muhammedan architecture is essentially a continuous development of Hindu craftsmanship, and that it must not be regarded as being in the main a foreign importation. He goes so far as to assert that in India "neither the political nor religious leaders of Islâm showed any bias towards foreign architectural fashions"; and again that: "Indo-Muhammedan architecture belonged root and branch to India's own tree." "It is, I think, quite certain," he observes, "that the Persian or Tartar 'bulbous' dome derives from the Indian Buddhist domed canopy and shrine." That view, in my judgment, is erroneous. The history of the dome in Persia and India has been investigated lately by several capable authors, and the Persian filiation of the Indian forms has been clearly established. The most recent of those authors, Mr. K. A. C. Cresswell (*Asiatic Review*, November 1914, and elsewhere), has traced conclusively the history of the Indo-Muhammedan double dome back to the buildings of Timûr (Tamerlane) in Samarkand (circa A.D. 1400). But, although that is true, it is also true that the Indian edifices have at least three peculiarities of Hindu origin, namely: (1) the form of the pinnacles in many cases; (2) the inverted lotus which crowns the Tâj and certain other buildings; and (3) the plan, with four smaller chambers grouped round one central dome chamber. That plan is to be seen in the mausoleums of Humâyûn and Khân Khânân as well as at the Tâj.

Although many of Mr. Havell's opinions appear to me to be erroneous, I desire to acknowledge freely that his books are of high value, because they have forced critics to recognise, somewhat against the grain, that Indian artists in architecture, painting, and sculpture have done great things. However much one may disagree with Mr. Havell, his vigorous eloquence compels thought and forbids an indolent acquiescence in the formulas of earlier writers. The prophet of a new doctrine must needs exalt his mission, and consuming enthusiasm cannot well avoid a certain amount of aggressiveness in manner and extravagance in expression.

VINCENT A. SMITH.

TWO PANELLED ROOMS.

Victoria and Albert Museum: Department of Woodwork. The Panelled Rooms: I. The Bromley Room; II. The Clifford's Inn Room. In separate volumes. 6d. each.

There have recently been issued from the Victoria and Albert Museum, Department of Woodwork, two small quarto booklets, which are admirable examples, both in themselves and in what they illustrate, of how an art museum can be really "educational" (dread word!). These deal respectively with the two Panelled Rooms: I. *The Bromley Room*, and II. *The Clifford's Inn Room*. Each book contains a concise history of the room, giving dates and all that is known as to its ownership; a faithful description of its condition at the time of removal, and a complete bibliography of works from which information has been or may be derived. Each also is fully illustrated by photographs and measured drawings. One may,

perhaps, regret that these last are to so small a scale; but such criticism is impossible when one finds that the price of the book, in very neat boards, is sixpence.

Whilst each book is independently valuable their comparison is extremely interesting, for one illustrates almost the end of the older system of domestic treatment, the other the complete change of system before the expiration of the same century; and both are fine examples. In Bromley House we have the old method of panelling, a method founded originally on making the panel no wider than the plank from which it was cut. Already Italian influence is evident in all the detail, but "proportion" had not been studied as it was by the Italians and by their later English followers. This is very striking in placing side by side the two general views (frontispieces). In the Bromley example the pilasters do little to express the height; the division of the panels is regardless of proportion. On the other hand, in the Clifford's Inn Room, one sees at a glance that proportion has become the first consideration. The architect is there; he has come into existence and has perceived that "classic" architecture demands proportion. The panels are now "glued-up" to such width as may serve his purpose; and his bold bolection mouldings (possible with improved tools) give well-defined vertical lines. The result is that the room, only 9 feet 10 inches high, has a dignity of its own.

This same room, however, exemplifies the introduction of a peculiarly English vice, that of applied carving, which came about through designing stone forms for woodwork, and which is an undoubted weakness—one which has had much to answer for in later times. Where, in this Bromley Room, the carver had to deal with the mouldings, large or small, he showed, as in other examples of the Wren period, remarkable talent for preserving the sections, or even expressing them. But the *applied* carving, often beautiful in itself, was, after all, a *stuck-on* addition.

To go back to the earlier example, the Bromley Room. It is worth while to look carefully at the heraldic centre panel of the overmantel of the fine chimney-piece. This is a particularly good example of the decorative treatment of Heraldry: the space well filled, the parts well balanced, the animal supporters vigorous and stark.

But perhaps the greatest value of these books is to bring home to those whom it may concern the educative advantage of producing a *whole*, instead of scattered fragments, for exhibition. Even the untrained can acquire more correct artistic and historical knowledge in ten minutes in one of these rooms than he could learn in ten weeks wandering among fragmentary samples. It should be the aim of such museums to show not scattered examples of detail, but their practical application in conditions as like as may be to those for which they were originally wrought. The books are beautifully printed, and are probably the best sixpennyworth that ever found their way to the Library shelves.

J. D. CRACE [*Hon. A.*]

INDIVIDUALITY.

Individuality. By C. F. A. Voysey. 80. Lond. 1915. 3s. 6d. net. [Chapman & Hall.]

"Out of the fulness of the heart, the tongue speaks." This is a book not merely for the architect, but for all who find the world too much upon them. "I have written these chapters in the earnest hope of encouraging my fellow-men to believe and feel the creative spirit within each and every one, which—while stimulating thought—leads on to mutual sympathy and true union." So runs the preface. In these chapters the case for individualism is presented and earnestly advocated, liberty for each man to work out his own salvation according to the capability that may be in him, and this Mr. Voysey maintains is omnipresent but sadly obstructed by the collectivism and materialism of the age. One chapter is devoted to the practical application of ethical ideas. It is impossible not to be touched by such sincere pleading, and almost one is persuaded that the individualist needs this defence. But does he? Has he not—let us confine ourselves to architecture—been having it all his own way these 500 years or so gone past? And in the remoter ages, was not his appearance the symptom of the beginnings of decay? Greek architecture had reached its zenith when the name of Pheidias is proclaimed. Byzantine art progresses no further after the day of Anthemius of Tralles. In Gothic architecture we see the same causes producing the same result. In the thirteenth century the Guilds worked as a corporate body. In the fourteenth they gradually generated specialists; there emerges the carver, the tomb-maker, the sculptor, the metal-founder, the artist in stained glass—and the heyday of Gothic vigour and progress is over. Mr. Voysey has no good word to say of the Renaissance—where the individual is in exchequer—and indeed ever since the time of Brunelleschi the famous buildings in Europe bear the name of their creators. And the atrophy of the Renaissance is due to the prominence of individualism. It started with a great guild tradition behind it, which it gradually crushed out of existence, and it became stiffer and more frozen as the communal element got eliminated. In Sir Christopher Wren's time there was no lack of individuality in the minor parts of his design—individuality of the craftsman—but when we reach Dean Aldrich we have reached exhaustion. The predominant individual drained its vitality.

This, Mr. Voysey would claim, is the abuse of individualism; but it seems to be the inevitable result. Titian and Michaelangelo left nothing to follow—individual art, in their directions, had reached its culmination—the individual, standing alone, produces effects that are sporadic and sterile. It is when he is backed up by fellow-workers, with a body of opinion behind him, that he succeeds in creating vital art. The Gothic revivalists had the awakened Church and the national conscience behind them, giving life to the works of the architects of the mid-nineteenth century. The Pre-Raphaelites were a group: Morris, Philip

Webb, and Burne-Jones were a triad: their force was due in great measure to association. Collectivism, as I understand it, is not incompatible with individual effort: its attempted restrictions are incessantly challenged and rebelled against, it generates individual activity and resistance, and, to some degree, clears the ground for such action. We need never fear for the individual becoming extinct.

It is easy to exclaim against the materialism of the age—not so easy to be fair towards it. The last century saw a phenomenal outburst of scientific knowledge and mechanical energy. With the violence of inexperienced youth, Science insisted on flinging open the doors of the shrines containing our most sacred ideals, and demonstrating that there were no idols therein. All that could not yield to the logic of the laboratory was pronounced non-existent or relegated to the land of dreams, and these stalwarts had to be met on their own ground. They were individuals with a vengeance, pulling out the lynch-pins of the social fabric, crying "the truth, we will have the truth, though the heavens fall." In an age of doubt and perplexity it is something to have hard facts and mechanical theories to go upon, and the science of political economy—with the element of human nature left out of it—had a kind of mathematical completeness, grateful in the welter of disintegrated opinion. Out of this wreckage rose Pity, and the earnest desire to put our house in human order so far as we could understand. Hospitals were enlarged, schools were built on every hand: there shall be no sick but the incurable, no one shall enter on life neglectedly ignorant. Picture galleries and museums shall collect and exhibit to rich and poor alike the masterpieces that have been created in all ages and in all countries, libraries shall open the world of thought to whoever may choose to consult them. When the assessment of the nineteenth century comes to be made, I believe the humanity on the one side of the balance will outweigh the materialism collected for the other.

Mr. Voysey will say that all this is compatible with his plea for a greater scope and tolerance for individuality, and the question must be referred to the readers of his book—it is a book that should be read as a valuable contribution to the literature of social ethics—as to where the answer should lie.

HALSEY RICARDO [F.]

Books Received.

Valuations. A Text-book on Valuation applied to the Sale and Purchase of Freehold, Lifehold, Copyhold, and Leasehold Property. Assessments under Finance Act, 1910, Enfranchisement of Copyhold Estate, Assessments for Rating Purposes, Compensation on Compulsory Purchase, and Valuations for Advances on Mortgage. By Samuel Skrimshire, F.S.I. With nearly 200 fully worked examples. 80. Lond. 1915. 10s. 6d. net. [E. and F. N. Spon, Ltd., 57 Haymarket, S.W.]

Fire Tests with Glass. Nos. 197 and 198 of the "Red Books" of the British Fire Prevention Committee. Reports of Tests with Three Window Openings Filled in with Wired Glass. 2 Reports. 2s. 6d. each. [British Fire Prevention Committee, 8 Waterloo Place, Pall Mall.]



9 CONDUIT STREET, LONDON, W., 8th May 1915.

CHRONICLE.

R.I.B.A. Record of Honour: Tenth List.*

Killed in Action.

LOWES, ALBERT EDWARD [*Associate*, elected Jan. 1914], A.S.C. attached to the 6th Northumberland Fusiliers, reported killed in action on 26th April.

Mr. Lowes, who was twenty-seven years of age, served his articles with Mr. Holford, of Newcastle-upon-Tyne, and was afterwards with Messrs. Marshall & Tweedie, of that city, and later with Messrs. Bradshaw Gass & Hope. He was a draughtsman of exceptional ability, and was awarded the Glover Travelling Studentship in 1912.

Died on Service.

HOYLE, WILFRED [*Associate*, elected 1910], invalided home, suffering from shock and pneumonia, after four months in the trenches with the British Army in France. Died in Netley Hospital.

Mr. Hoyle began his architectural training at King's College, Division of Architecture, and was afterwards an improver with Messrs. Stratton & Lucas. From 1906-10 he was in the office of Mr. Geoffrey Lucas, the latter part of the time as chief assistant. Later, until he joined the Army, he was with Mr. C. E. Mallows.

Wounded in Action.

BROAD, KENNETH S. [*Associate*], 2nd Lieut. 2nd Leinster Regiment, reported wounded in the casualty lists of the Expeditionary Force in France, under date 24th April.

On War Service

The following is the Tenth List of Members, Licentiates, and Students on War Service, the total to date being 41 Fellows, 254 Associates, 101 Licentiates, 1 Hon. Associate, and 137 Students:

FELLOWS.

Corbett, A. E.: 2nd Lieut., 11th Bn. Border Regt.
Knowles, W. H.: Captain, 1st Northumberland Bde., R.F.A.
Nobbs, Percy E.: Captain, 17th Northumberland Fusiliers.
Summerhayes, E.: Major, Camp Commandant, Commonwealth Military Forces, Rottneest, W.A.

ASSOCIATES.

Barry, F. Renton, jun.: 2/5 Bn. East Surrey Regt.
Carter, W. A. T.: Hants (T.) R.E.
Cheston, J. A.: H.A.C.
Dawson, N. J.: Captain, 1st Mtd. Div. A.S.C.

Douglas, A. Houston: H.A.C.
Earle, Frank: Captain, Staff R.E. Services.
Harvey, D.: R.A.M.C. (T.).
Hughes, T. Harold: 2nd Lieut., Artists' Rifles.
Mann, H. W.: Sergt., Essex Yeomanry.
Pilling, P. C.: Captain, Loyal North Lancs. (T.).
Procter, John C.: 2nd Lieut., 15th Gloucestershire Regt.
Tyrwhitt, Thomas: R.N.A.S.

LICENTIATE.

Beattie-Brown, Wm.: 2nd Lieut., 17th Bn. Northumberland Fusiliers.

STUDENTS.

Dixon, C. B.: Lieut., 13th Bn. York and Lancs. Regt.
Hamilton, T. C.: 2nd Lieut., 23rd Northumberland Fusiliers.
Kay, Mitchell C.: London Scottish.
Lyne, Edgar, jun.: R.N.A.S.

The Architectural Profession and the War.

The President, Mr. ERNEST NEWTON, A.R.A., in bringing to a close the discussion* on the Annual Report last Monday, referred to the statement in the Report that over 1,200 members of the architectural profession were now embodied in the various branches of the Services, and said:

I do not know if this includes all those who are of military age; but if not, if there are any who are hesitating, let them hesitate no longer. Well, gentlemen, this is a grand record, and we are very proud of these young men, gently nurtured and following a peaceful profession, who, without a moment's hesitation, have thrown aside all thought of personal comfort, all thought of their future career, and have gone out to fight in the most terrible war that the world has ever known. We cannot think too highly of these men. We are apt to take these things as a matter of course and say, "Twelve hundred of our fellows have gone"; but it means so much, and, personally, I cannot speak of it without the deepest emotion. I think it will interest you to know that of the students of the Royal Academy Schools no fewer than 84 per cent. have gone. I cannot give you the history of the few that are left, whether they are too young or not I do not know; but it practically comes to this, that at the Academy Schools there are no architectural students left. In connection with recruiting, the Architectural Association have done splendid work; their activities in this direction have deprived them of their President and practically all their students, and although they are gallantly continuing their school for students under military age, Tufton Street has become a Recruiting Centre rather than a School of Architecture. It has been suggested in more than one quarter that the names of those who have become soldiers and sailors should be permanently recorded in this building, and definite proposals will be placed before the Council in order that this may be done. The Editor of the JOURNAL, Mr. Northover, has taken great pains to compile a complete and correct list, and he hopes that anyone who is aware of omissions or inaccuracies will communicate with him at once. I should like to say in this respect that we want the

* Previous Lists will be found in the JOURNAL for 26 Sept., 17 Oct., 7 Nov., 21 Nov., 9 Jan., 23 Jan., 6 March, 3 April, and 24 April.

* To be published in the next issue.

names of all who are serving, whether they are assistants, or pupils, or practising architects—not necessarily members of this Institute, or of any Society at all. If all architects, or architect-students, will send their names to Mr. Northover he will know how to deal with them. I think we shall find, if everybody takes that trouble, that instead of 1,200 we shall have 1,500 or 1,600 names.

It is unnecessary to say that our young men have not gone to fight so that we old ones can carry on our "business as usual" in peace and security. Unquestionably there are difficult times before us, and we who are too old to fight will have other burdens laid upon us, from which we shall not shrink. We must do what we can to stick together and help one another. And in this connection I would appeal to all those who can do so to contribute, without delay, to the War Relief Fund so ably administered by the Architects' Benevolent Society and members of the War Committee. Of course, I know that work has dwindled practically to nothing in many offices; but, on the other hand, the War has brought a good deal of extra work to some men, and there are others whose work has been done in happier times. It is to these especially that I appeal to give as liberally as they possibly can to this War Fund.

I cannot conclude without a reference to the work of some of the Committees recorded in the Report. Where everyone has worked so hard and so loyally, it is difficult to discriminate; but I feel I must be allowed to make a brief reference to the work of the War Committees. Both have had their share of hard work, but by the force of circumstances the Professional Employment Committee has been able to show most results. On these Committees we have had not only our own members, but members of the Society of Architects, and architects attached to no Society, and they have done most useful and constructive work. They have helped a considerable number of architects already; and there is a scheme on foot which will help a good many more, and if it is not too late perhaps Mr. Lanchester would give us a few remarks in connection with it. It will help many architects who are really in distress on account of the War. Mr. Lanchester, Mr. Tubbs, and Mr. Dircks will forgive me for mentioning their names as specially devoted workers. If I were to give you a list of all the members of these committees and sub-committees whom I could single out as devoted workers I should keep you here for a very long time.

In conclusion, I also wish to thank the Council for their loyal support during what has been an abnormal and, in some ways, a difficult year. And, although I know he would prefer not to be mentioned, I cannot resist expressing my thanks to Mr. MacAlister, who works so unobtrusively that until one becomes President one does not realise how much the Institute owes to him. And this keen devotion to the interests of the Institute shown by Mr. MacAlister finds an echo in all members of the staff.

The War: Civic Survey Work for Architects.

Mr. H. V. LANCHESTER, in response to the President's invitation at the Annual General Meeting, gave some account of the steps being taken by the Professional Employment Sub-Committee of the Architects' War Committee to set on foot Civic Survey work as a measure of relief for architects whose ordinary work is suspended owing to the War.

Mr. Lanchester said that when, as a member of the Professional Employment Sub-Committee, he made enquiries, he found that there was great need of a form of employment suited to architects which would produce some useful work that would be of recognised value after the War. The Committee came to the conclusion that one of the best forms of employment was to help to replace the collection of Civic Survey drawings which was lost on its way to India in the *Clan Grant* owing to the sinking of the vessel by the *Emden*. The work interested the Committee so much that they realised the possibilities of Civic Survey work throughout the country as a valuable preparation—and one which had been maintained by eminent authorities as an indispensable preparation—for town-planning schemes. It was realised that there was an opportunity here for architects to engage in this class of work as a preparation for the town planning of the future. The Committee, on their own account, and out of their own funds, began to employ those who were in need. But it soon became apparent that the work was beyond the scope of any funds which they could hope to have at their disposal. They therefore approached the Government—and members would appreciate the slowness of the operation of moving a Government—and after many discussions and interviews the Government was persuaded to make a grant, though only a small one. It was a grant for work by professional men in difficulties, and for this work £2 a week was offered, just to tide them over the present difficult period. Two conditions the Government attached to its offer—namely, that the work should be in the hands of competent directors, and that the approval of the local authorities concerned should be obtained. The last condition was rather a difficult one, because in some places a number of different local authorities had to be approached and convinced. But they had seen the Secretary of the Government Committee, and he encouraged them to hope that if they could get the approbation of some of the large central societies representative of local authorities, such as for Greater London, for Birmingham and district, and other districts, that would satisfy the Government requirements in this regard. In that way they would be able to cover a large area at one stroke. Through Mr. Aldridge, who was holding conferences of these societies, the Committee had obtained general approval from that representing Greater London, so that as soon as they could get their organisation together they would be able to ask the Government to help them by making the grant above alluded to. Though only a small grant, they hoped it

would be of assistance to those who were really in straits. He thought this was satisfactory, and that the Committee had set on foot a valuable work. But they need not stop there; they might go on and try to extend the scope of work of this class. But so far they had the recognition of the Government that architects were entitled to be considered, especially owing to the necessity which the Government had been under of stopping building works.

American Feeling on the War.

Mr. Clipston Sturgis, President of the American Institute of Architects, in a recent letter to the President R.I.B.A., writes:—

"Our hearts are with you in the splendid struggle England is making, and the example she is putting before the world of that fine courage which is the outcome of a conviction of the right."

The late Philip Webb.

At the General Meeting of the Institute last Monday, before the ordinary business of the evening was proceeded with, a resolution was passed expressing the Institute's deep regret at the loss the profession has suffered by the death of Mr. Philip Webb, and eloquent tribute was paid by various speakers to the character and genius of the late architect.

Mr. E. GUY DAWBER, *Hon. Secretary*, said: I am sure all our members will have noticed in the papers a fortnight ago the report of the death of a great architect, Mr. Philip Webb. Though Mr. Webb was not a member of our Institute, we all of us have a very great admiration for his work as an architect. He was a pioneer in the early days, and he has left a great mark upon English architecture. I beg to propose the following resolution:

"That the Royal Institute of British Architects desires to express its deep regret at the death of Mr. Philip Webb, and to record its high appreciation of his distinguished career, and admiration for his artistic achievements in architecture and decoration."

THE PRESIDENT: I will ask Professor Lethaby to second that resolution.

Professor W. R. LETHABY [*F.*]: It is very difficult for me to do so, Sir, because Mr. Philip Webb was one whom I looked on with what may seem extravagant admiration. Of course he lived latterly, indeed throughout all his career, so quietly that we know little about him. But, to my own mind, he was a great force, and also that somewhat astonishing thing, a great man—in fact, with one exception, the greatest man I have ever had the chance or fortune to come into contact with in any way. When the attempts in English building in the last half-century come to be analysed, I think it will be found in an extraordinary degree how Philip Webb at once, in the early days, in his first works, when he was twenty-eight, twenty-nine, or thirty years of age, did the same sort of work which he did towards the end

of his long life; and that he set the pattern for what became the ambition in building in the latter end of the nineteenth century. As Mr. Mackail well knows, he foredid everything which was done by everybody else. The red-brick house, the treatment of the sash-window, the attempt to deal with modern practical requirements in a modern and—if one may use that dreadful word—"artistic" way, all seemed his inventions. And in detail, if one traces it right up—in a more or less archaeological manner—you find that he anticipated everything which came to be done later—and not only so in architecture, but in the decorative arts. In fact, all that the Arts and Crafts people tried to do appears to have been handled by Webb twenty or thirty years before they made that effort. And not only was he a great building architect and a great decorative architect, but he was a most wonderfully gifted draughtsman, especially of animal forms. He was a sort of born lover of animals, and was led by his nature into drawing them in a very sympathetic and wonderful way: so that, within the limitations of his output, he was one of the great animal draughtsmen of his time in England. I wish I could give you some picture of his remarkable gifts and attainments. It partly hinged on the time of his birth; he was born into a great enthusiasm, in the early middle period of the nineteenth century, when he fell in with a group of gifted men who, in an extraordinary way, became one-minded, so that we cannot tell where the work of one man began and the work of another finished; the work of Webb, Morris, and Burne-Jones was so interwoven. That is one little point perhaps that might have a general application; it is the need we must all feel for closer association, the need of groups for sympathy and co-operation, for stimulating one another on in our hard career.

Mr. J. W. MACKAIL, LL.D.: I feel under a great obligation to your President for the courtesy with which he has allowed me, though not a member of the Institute nor an architect, to add a few words from perhaps a rather different point of view to those which have been already so well spoken by those who are qualified, as I am not, to speak of Philip Webb's work and genius as an architect. But it so happens that, though I cannot say I was one of Webb's intimate friends, and indeed saw very little of him, yet I have moved for many years in the closest intimacy with those who were his closest friends and whose lives I have helped to chronicle. And from that knowledge, together with the personal knowledge that I was fortunate enough to have of Webb himself, it is possible not only to agree in the fullest way with what has fallen from those who have spoken already, but to emphasise, as I hope I may be allowed to do, some of the remarkable qualities of character which Webb possessed. It is not only that he was a great man, and also, as Professor Lethaby has said, a great pioneer; but his pioneer work was executed during his earlier and more fertile period in closest brotherhood

and co-operation with other men of equal greatness with his own. When one goes back more than half a century and thinks of Street's office, in which Webb was succeeded as senior assistant by Norman Shaw, and in which for a time William Morris was a junior assistant, one is full of amazed admiration at the great achievement which came out of this single office. And then when Webb set up on his own account after leaving Street's, the first work which he did was in all respects and in the fullest sense of the word a masterpiece. His genius seems to have come into the world full-grown. That was "Red House," which he built for Morris. It was planned in the winter of 1858 and completed in the summer of 1860. As to this I need only quote the very generous and true words written of it at the time by Rossetti. He called it: "A most noble work in every way, and more a poem than a house—an admirable place to live in too." We all know at least some of Webb's work. There are two houses of his in London and two out of London with which I have for many years been very intimate. What is remarkable about the impression they make upon one who is not an architect is that they produce their effect very slowly. Of this one may be certain, that never with any lapse of years does one regard them with less admiration than one did at first. It took me a dozen years to begin to appreciate one of his greatest works in architecture—"Clouds," in Wiltshire. But the effect it produces is permanent, and that effect is due to the fact of Webb's sense of proportion in design. That was impeccable. It was masked towards the wider public by a certain austerity which prevented it, and probably will prevent it, receiving any very wide popular acceptance. For just as in his own personal character he was reserved and austere, and in later years at least a good deal of a recluse, so his art possessed the same characteristics; it was austere and reserved, but it was always high, and always, within the limits which he rigorously assigned to himself, perfect. Mr. Reginald Blomfield wrote twenty years ago that the nineteenth century will probably be memorable—as regards architecture he meant—as the most barren of creation in the history of the civilised world. To that sweeping assertion there are at least a few brilliant exceptions. Webb's work is one of those exceptions. That austere art at a high tension is one of the prominent gifts to our civilisation which have been bestowed upon us during the last fifty years. Webb's life was, from the beginning and until he gave up altogether, one of strenuous work, strenuous and laborious, and with a certain gravity which amounted almost to greyness. The one point upon which one would have wished his life to be different was that there should have been more joy in it. Perhaps that absence of joy reflects itself to some extent even in the work of his hands, at least in his later work. I have lived for many years, and do live at the present day, among Webb's furniture, the things that he designed and that were produced under his immediate eye in the early days of the firm of Morris & Company, and they

have that sense of joy and superabundant vitality which Morris communicated through all that circle, and flushed with radiance even the cold austerity of his great colleague. And now that colleague is gone. He lived exactly in the sense of Milton's noble words, as "ever in his great Task-master's eye." Perhaps he regarded Him as a task-master more than was necessary. His friendships were few, but they were deep. Those friends whom he had, he grappled to his soul with hooks of steel, and they remained his friends for ever. In these few friendships he lived and wrought unrelaxing to a great age, and became towards the end more and more solitary in his life. And now we have to deplore the loss of the last survivor of a great circle who did much to restore and heighten civilisation in this country and in the world.

Mr. HALSEY RICARDO [F.]: I have no pretensions to speak of Webb as a man, for I scarcely knew him. On the two or three occasions when I had to approach him he was kindly, but reserved. His work—and I know little more than his town work—has the quality of arresting one's attention, without being in the least aggressive or on parade. Its main characteristic, I find, is the vitality and life which there is in every part of it. It is full of ideas and suggestions; there is development possible from every item. Much work that is being done is charming, cultured, and full of literary feeling, and exceedingly pleasant to look upon; yet, as far as we can see, nothing is going to come out of it. Webb's work, on the other hand, was inspiring, prompting to further action and invention. This is due, I think, to his knowledge and appreciation of the materials he dealt with. He knew what had been done with them in past time, and what they were good for. His treatment of marble and stone, brick and metal bears his sign-manual, due to his investigation into the methods of the past, as well as to his practice of keeping his hands always on the material. He had a Janus attitude with respect to his construction: one face looked to the past, the other to the actual present. And always one feels the constructive common sense that appropriates what is valuable, what has been found effectual, either in the past or in the present. I once obtained from him a specification of a small work that he had been erecting. When an architect writes his own specification, it is a most illuminating document; you will see from it what manner of man he is, what he knows, what he thinks, his outlook on his work. It is a searching insight into human nature. The specification I obtained was full of wise lore and proved experience. It was human, and it made reference to some of the idiosyncrasies of the materials, asking for special care and watching over some of the items in their new resting-places. This sensitive, sympathetic attention shows itself in his works, and it is everywhere—in an iron railing, or a firegrate, or a coping, as fully as in the larger features. His work, consequently, is suggestive, and full of hints and directions as to the way one should go; complete in itself, for his work was complete to the last detail. Yet

it was far from being final; there is sap enough in it not only to keep it as a living thing, but also to engender blossom and seed to grow in such minds as can afford a suitable ground and the desire to cultivate it. And what higher praise can we give to a man's work than that besides being distinguished it is fruitful?

The resolution was then put to the Meeting and carried by members rising in their places.

Mr. PHILIP NORMAN, F.S.A., expressing regret at his inability to be present on Monday, writes:—

"If I had been called upon to say anything at the Meeting I should hardly have ventured, in the presence of a number of distinguished architects, to speak of the high quality of Philip Webb's architectural designs—of their reticence, and of an unerring sense of proportion, which is too often wanting in recent work.

"I knew him best as a member of the Committee of the Society for the Preservation of Ancient Buildings, on which I worked regularly for many years.

"Apart from my admiration for his work as an artist, what struck me most about him was his profound conscientiousness. I never in my life knew a man more absolutely resolved to do his duty. Perhaps some of his ideals will always remain ideals, but he was a man of great gifts, and he set us all a noble example."

The late Wilfred Hoyle [A.].

Mr. H. V. LANCHESTER, *Vice-President*, rising at the instance of the President after the speeches above recorded, said: Mr. Wilfred Hoyle, in contrast to the late eminent gentleman about whom we have just been listening, was one of the very young members of our profession. He was quite at the beginning of his career, but was a rising member of the Institute. The reason I ask you to pass a special vote of condolence with his relatives is because of the fact that his death is directly due to his work in defence of his country. Mr. Wilfred Hoyle was invalided back from the front, and his death arose from the exposure he underwent in the trenches. He had three brothers also fighting at the front, and one of these has lost his life in action. I think it would be, under the circumstances, a graceful act to offer the condolences of the Institute to his near relatives. The motion, seconded by the Hon. Secretary, was carried.

The late Alfred Samuel Goodridge [A.].

Mr. A. S. Goodridge, of Bath [elected Associate in 1852] died on the 17th April, at the age of eighty-seven. The Hon. Secretary, in announcing the event at last Monday's meeting, said that Mr. Goodridge was practically the father of the Institute, having been an Associate for 63 years. He was the son of an architect who was doing good work over a century ago in Bath; and he himself was responsible for some fine buildings and for many important alterations carried out in that city under his superintendence. On the motion of the Hon. Secretary, a vote of condolence was passed to the bereaved widow and family.

Mr. Mowbray A. Green [F.], of Bath, has kindly contributed the following particulars of the work of Messrs. Goodridge, father and son:—

Our late Associate's father, Henry Edmund Goodridge, who came of an old Devonshire family settled in Bath since the eighteenth century, was one of the pioneers of the Neo-Grec manner in the West, and executed a new Ionic façade to Argyle Chapel, Bath, in 1821; Lansdown Tower in 1825; the Cleveland Bridge and approaches in 1827; and Montebello, Bathwick Hill, in 1828, a house which remains to this day as a fine example of its period. In 1829 he erected the stone staircases and terraces at Prior Park for Bishop Baines. (A reproduction of his plans for this work and two photographs were published in the *Institute Journal*, 1905-6, pp. 369-371.) He built the entrance to the Lansdown Cemetery, and the Corridor, Bath, in 1845; and Fiesole, Bathwick Hill, in 1846. Amongst other works of his were Combe Down Church, the Beckford Library at Hamilton Palace, Ecclestraig, the seat of Mr. Forsythe Grant, and Downside College Chapel. He also competed for the Houses of Parliament in 1836.

Alfred Samuel Goodridge was the Architect of Percy Chapel, Bath, in conjunction with his father; and amongst his other buildings were the Harding Almshouses, Moyles Court, Hants; the Fountain in Laura Place, Bath; Ravenscroft, Bathwick Hill; Trowbridge Town Hall; Highfield, Trowbridge, the residence of the late Sir Roger Browne; Lady Browne's Almshouses, Trowbridge, and the Browne Mausoleum in Trowbridge Cemetery. He also remodelled Lloyds Bank, Milsom Street, Bath. He was keenly interested in up-to-date sanitation, and during his practice the reconstruction of the drainage of a large number of houses was carried out under his supervision.

Amongst his unexecuted works were schemes for New Markets, in 1861, the remodelling of the Sydney College as an hotel, and a very large Hotel on Queen's Parade, all in Bath.

The Annual Elections: New Nominations. *22nd May*

The following nominations have been made by members in accordance with By-law 33:—

As Vice-Presidents.

BURNET: Sir JOHN, R.S.A. [F.].

Nominated by John Watson, Alexander Paterson, A.R.S.A., Sir Robert Lorimer, A.R.S.A., A. Lorne Campbell, James A. Morris, John B. Wilson, John Keppie, *Fellows*; T. Forbes MacLennan, Alex. McGibbon, *Associates*.

LUTYENS: EDWIN LANDSEER, A.R.A. [F.].

Nominated by Sir Aston Webb, K.C.V.O., C.B., R.A., Halsey Ricardo, John Slater, Sir Ernest George, A.R.A., Professor Beresford Pite, Professor W. R. Lethaby, Sir Charles Nicholson, *Bart., Fellows*.

WATERHOUSE: PAUL [F.].

Nominated by Thomas E. Colcutt, Alfred B. Yeates, Herbert Baker, Gerald C. Horsley, Sir Ernest George, A.R.A., Walter Cave, Sir Aston Webb, K.C.V.O., C.B., R.A., Edwin L. Lutyens, A.R.A., G. H. Fellowes Prynne, *Fellows*.

*As Members of Council.***GARBUTT: MATT. [F.].**

Nominated by Fred. W. Marks, Edward Greenop, E. J. Gosling, Herbert A. Satchell, Max Clarke, F. T. W. Goldsmith, *Fellows*; Sidney K. Greenslade, *Associate*.

RICKARDS: EDWIN ALFRED [F.].

Nominated by H. V. Lanchester, D. Barclay Niven, H. H. Wigglesworth, S. D. Adshead, A. E. Richardson, *Fellows*; Stanley C. Ramsey, C. Lovett Gill, *Associates*.

*As Member of Practice Standing Committee.***HUDSON: JOHN [F.].**

Nominated by Wm. Woodward, Alfred W. S. Cross, Frederic R. Farrow, Percy B. Tubbs, Max Clarke, *Fellows*; H. Hardwicke Langton, J. Douglas Scott, *Associates*.

The Front, No. 9 Conduit Street [*ante*, p. 309].

FROM MR. J. D. CRACE, F.S.A. [Hon. A.]—

I should like to add my humble endorsement of the opinion expressed by "Ubique," quoted in the last issue of the JOURNAL. It is, perhaps, fortunate that financial reasons will keep any project of alteration in the background for many years. The Institute has a plain, well-proportioned, and not undignified front, businesslike, and not inviting criticism. Let us be content. A walk round the neighbourhood will hardly convince the Council that modern alterations, with architectural symptoms, have done much to improve upon the old houses, or added to the dignity of the streets and squares affected.

British Architects and Indian Craftsmen.

In the House of Commons, on Tuesday, 27th April—

MR. KING asked the Under-Secretary for India whether his attention had been called to the account furnished by the Consulting Architect to the Government of India on the work done by Indian craftsmen on the building of the Gwalior Residency; and whether, in view of the official testimony to the fact that Indian craftsmen, when inadvertently left without full-size drawings, were able to carry out details with freedom, taste, adherence to the ideas of the British architect, and with pride and delight in their work, instructions were now being given to save the expense of full-size drawings of details of ornaments, mouldings, etc., so that office expenses might be saved and Indian master-builders and craftsmen might be encouraged in their traditional art.

MR. CHARLES ROBERTS: The Secretary of State has noticed the paragraph in the report by the Consulting Architect to the Government of India to which the hon. member alludes. The Government of India are also, no doubt, aware of it. They have expressed their intention to give facilities to such an extent as may be found practicable for Indian sentiment to find expression in New Delhi through the medium of Indian craftsmen and builders, and the Secretary of State does not consider it necessary to issue any special instructions in the matter.

International Engineering Congress, San Francisco.

A letter addressed to the Institute by Mr. C. W. Hunt, Secretary of the above Congress, states that the

American Engineering Societies have arranged for a special excursion train from New York to San Francisco in connection with the meetings of the Societies just before the Congress. The train leaves New York on September 9th, and arrives at San Francisco on the 15th, stopping *en route* at three of the most interesting scenic points in the United States—viz., Niagara Falls (4 hours), Colorado Springs (11½ hours), and the Grand Cañon of Colorado (15 hours). The fare from New York to San Francisco and return is \$98.80. A cordial invitation is given to members of the R.I.B.A. to attend the Congress, and to make the journey with the special train party, which will represent all classes of engineering activity. Fuller particulars are given in a circular to be seen in the Institute Library. In order that accommodation may be provided in the special train, notice should be sent as soon as possible to Mr. Chas. Warren Hunt, Secretary to the American Society of Civil Engineers, 220 West Fifty-seventh Street, New York.

On Service in East Africa.

MR. H. L. GEESON, *Licentiate*, serving as Lance-Corporal in the "A" Company, East African Regiment, writes from Nairobi under date 2nd April:

Most of the architects in this colony enlisted on the news of war last August, some in the above regiment, others in the Pioneers and Transport Corps, and many of us have been at the front. Five joined this regiment, three are at present serving and have been doing so from the commencement of war. Our work is varied—we have guarded important posts on the Uganda Railway which have been attacked by the Germans, have held positions on the main road from this colony to German East Africa, and have been on safaris through the bush country and over the border looking for patrol parties of the enemy. By forced marches a party of this regiment trekked across a mountain range, through swamps and thick bush, to cut off a raiding party of Germans on the Tsavo river, and we arrived in time to capture some of them, after a hard march and with a shortage of food and water. On the safaris water is very scarce and has to be carried by native porters in kerosene tins and canvas bags. All marching through the bush is done in single file and the stores are carried by porters. The heat is great, and long midday rests are necessary, marching being done by moonlight when possible. Columns are stretched out to a great length, as many as 300 porters being necessary to carry the stores for 50 white men, each boy carrying about 60 lbs. on his head. The bush is thick and often pathless, and directions are taken by the compass. Game of all sorts is met—giraffe, rhinoceros, lion, buffalo, zebra, leopards, and buck of all sorts—and one has to rely on one's rifle for meat for the next meal. At present we are in Nairobi being refitted, and being armed with Maxim guns, and expect soon to be at the front again.

Boswell's House, Great Queen Street.

The London County Council have accepted an offer of the Grand Lodge of Freemasons to present portions of the façade and the staircase of Nos. 55 and 56 Great Queen Street, known as "Boswell's House" and formerly as "Bristol House," and it has been decided to exhibit the staircase in the Geffrye Museum and to re-erect the façade in Geffrye's Garden. (An account

of this Museum, which is in Kingsland Road, Shore-ditch, will be found in the JOURNAL for 11th April 1914.) It was hoped that the Grand Lodge might be induced to repair and preserve the building *in situ*, but upon detailed examination it was found that the brick-work and piers supporting the structure were decayed and cracked, that dry-rot was prevalent in the timbers of the roof, and that the front wall was out of plumb. A dangerous structure notice had been issued, and the District Surveyor was not prepared to approve of the front being incorporated into what would become, under the Grand Lodge's scheme, a public building. The house originally formed the western portion of a large mansion built in 1637, the designer being stated to be John Webb, pupil of Inigo Jones. Among the distinguished residents have been the first two Earls of Bristol; Thomas Fairfax, Cromwell's Commander-in-Chief; the 3rd Earl of Devonshire, the 2nd Earl of Sunderland, the 7th Duke of Norfolk, and James Boswell. A history of the building is given in Vol. V. of the L.C.C. Survey of London.

ARCHITECTS' BENEVOLENT SOCIETY.

Annual Report, adopted at Annual General Meeting
20th April.

The Council of the Architects' Benevolent Society, in submitting their sixty-fifth annual report, regret that they have to record a falling-off in the amount of subscriptions, as compared with last year, of £27 18s. As no doubt many subscribers have been affected by the War, it is feared that this diminution may be increased during the coming year, unless those who are in a position to do so assist the Society by either augmenting their subscriptions or assisting the Council to obtain new subscribers.

The sum of £1,150 15s. has been distributed in grants and pensions, an increase of £141 as compared with the previous year.

The Capital Account, on the other hand, has been increased. The Society in this connection is greatly indebted to the generosity of Mr. Henry L. Florence, Vice-President, who last June presented a donation to the funded property of the Society of £1,000 City of London Corporation 3½ per cent. Bonds, 1914, fully-paid scrip. For many years Mr. Florence has manifested his interest in the Society, both by active work as a member of the Council and by contributions; and the Council feel that the beneficial work of the Society could receive no greater testimony to its practical usefulness than this handsome contribution from one with so intimate a knowledge of its character and scope.

The Capital was further increased by a donation of £550 made by Mr. George Neat, acting under the discretion given to him by the will of the late Mr. Frederick Ingle, of 24 Queen Anne's Gate, S.W., and Chesterworth, Lincolnshire. A further instalment of £500 was received from the Executors of the late Mr. William Glover, making the total amount received to date from this source £1,200. The Society is also in-

debted to the Chelsea Arts Club for a donation of £50, and to the following donors: Mr. Balfour Abercrombie, £10 10s.; Mr. C. Stanley Peach, £10 10s.; Mr. Reginald St. A. Roumieu, £10 10s.; Mr. Benj. Ingelow, £10 10s.; Mr. W. H. Scrymgeour, £10; Mr. Frank Lishman, £6 13s. 6d.; and to various donors of smaller sums.

In the Autumn the Council were informed by the Executors of the late Mrs. Arthur Cates that she had left the Society a legacy of £1,000. As this amount was not, however, received before the end of the year, it is not included in the year's Accounts.

Shortly after the Declaration of War a Committee, representative of the architectural profession as a whole, and known as the Architects' War Committee, was formed, and issued a special appeal for contributions for the relief of members of the profession or their dependants who are in distress caused by the War. In November this Committee handed over to the Society the sum of £591 19s. 6d., with the request that the sum should be administered in the relief of such cases, but that assistance need not necessarily be given only in the form of charitable doles. The Council have opened a separate account at the bank for this and any subsequent amounts that may be received from the Architects' War Committee, and are distributing grants among applicants, as well as contributing, subject to certain conditions, to the funds of the Professional Employment Committee and the London Society, both of which bodies are endeavouring to provide work for members of the profession who are in temporary difficulties in consequence of the War. At the termination of the administration of this fund a detailed account will be issued.

The following, being the five senior members, retire by rotation from the Council: Mr. E. Arden Minty, Mr. Wm. Woodward, Mr. Arthur Ashbridge, Mr. Sydney F. Bartleet, and Mr. E. Guy Dawber. To fill the vacancies caused by these retirements the Council have the pleasure to nominate Mr. W. Campbell Jones, Mr. Walter L. Spiers, Mr. Percy B. Tubbs, Mr. W. Henry White, and Mr. Edward Greenop.

The Council have again the pleasure to nominate Mr. Henry L. Florence and Mr. Reginald St. A. Roumieu as Vice-Presidents.

In concluding this report the Council earnestly hope that they may be assisted by the active co-operation of members of the architectural profession in obtaining fresh contributions, as there are indications that assistance will become a matter of greater urgency in the crisis through which the country is passing at the present time, and that the resources of the Society will be heavily taxed.

The President's Appeal.

Mr. ERNEST NEWTON, A.R.A., President of the Society, in moving the adoption of the report, said:—

"In proposing the adoption of the Report, I wish to call attention to the fact that the goal which this Society has had in view for so many years has at last been attained, and our capital has reached £20,000. I would suggest that we now aim at making it £30,000.

"It is, I am sure, quite clear to you all that large claims will be made on us on account of the War, and I fear that an ordinary appeal to the general body of architects will not be likely to be as successful as usual, as there is no doubt that an increasing number is suffering from lack of work. The Government's decision to divert labour from building work to other and more pressing activities will undoubtedly stop a great deal of work that is in contemplation by municipal and other authorities, and will thus extend the area of unemployment amongst architects. I would therefore appeal to the generosity of those who are, perhaps, more fortunately situated to add to our funds to the utmost of their ability. If all who are able would follow, either exactly or as nearly as they could, the generous example set last year by Mr. Florence, we should have no further anxieties. But I need not say we shall welcome all sums, large or small, and I would remind you of the old saying that 'he gives twice who gives quickly.'"

"In view of the action of the Government which I have already alluded to, it may perhaps at some future date become necessary to make an appeal outside our own ranks, but it would, I think, be premature to consider this at present. I feel, and I am sure that you will agree with me, that if we can do without this wider appeal, we should all prefer it. On the whole, I am inclined to think that the best kind of appeal is a personal one. I mean that each member of the Council, by using his personal influence, will materially assist to increase our funds by a larger sum than any written or printed appeal would produce."

"Assistance by way of employment is, as you know, already being given to a large number of architects. This seems to me to be an excellent system. The aim of the Employment branch of the War Committee is to give this kind of help to architects in all parts of the United Kingdom, and I am sure that I can therefore appeal not only to London men, but to our well-to-do colleagues in every part of the country, to make a special response to a special appeal."

Mr. Newton's appeal was strongly supported by Mr. W. Hilton Nash, Hon. Treasurer, and subscriptions were forthwith received from the following gentlemen:—

Mr. Ernest Newton, A.R.A.	...	...	£5	5	0
Mr. Percivall Currey	...	...	5	5	0
Mr. W. Hilton Nash	...	...	5	5	0
Mr. H. Chatfield Clarke	...	...	5	5	0
Mr. Henry Lovegrove	...	...	5	5	0
Mr. Albert E. Kingwell	...	...	2	2	0
Mr. C. H. Löhr	...	...	1	1	0

Sir Ernest George, A.R.A., has since sent a cheque for £10 10s. Prior to the meeting Sir Aston Webb presented through the President £25 to the War Fund.

ALLIED SOCIETIES.

The New Zealand Institute of Architects.

The question of the education and training of young men preparing for the architectural profession in New

Zealand has been for some time before the New Zealand Institute of Architects, and it has now been decided to ask the Government for a grant for the purpose of establishing in one of the University Colleges a Degree or Certificate course in Architecture, the College to be selected by the Government. The Education Committee has in preparation a scheme of examination for the New Zealand Institute's certificate of membership.

A Fellow of the R.I.B.A., Mr. Alfred Atkins, Past President of the New Zealand Institute, has generously endowed the Institute with funds to provide for all time a silver and a bronze medal annually to be awarded in the Prize Essay Competition. He has also presented a gold medal for the Council to bestow as they see fit, and further, with the dies from which the medals may be annually struck.

MINUTES. XIII.

At the Eighty-first Annual General Meeting (being the Thirtieth Meeting of the Session 1914-15) held Monday, 3rd May 1915, at 8 p.m.—Present: Mr. Ernest Newton, A.R.A., President, in the Chair; 24 Fellows (including 8 members of the Council), 13 Associates (including 3 members of the Council), 2 Licentiates, and 3 visitors—the Minutes of the Meeting held Monday, 19th April, having been published in the JOURNAL, were taken as read and signed as correct.

The decease was announced of the following Associates:—Edgar George Cusson Down, elected 1896; Alfred Samuel Goodridge, elected 1852; Robert Francis Hodges, elected 1873; Wilfred Hoyle, elected 1910.

On the motion of Mr. E. Guy Dawber, Hon. Secretary, who referred to Mr. Goodridge's long period of membership, it was resolved that a vote of sympathy and condolence be passed to the widow and family of the late Associate.

Speeches expressive of appreciation of the character and genius of the late Mr. Philip Webb, architect, were delivered by Mr. E. Guy Dawber, Hon. Secretary, Professor W. B. Lothaby [F.], Mr. J. W. Mackail, and Mr. Halsey Ricardo [F.], and it was

RESOLVED, That the Royal Institute of British Architects desires to express its deep regret at the death of Mr. Philip Webb, and do record its high appreciation of his distinguished career, and admiration of his artistic achievements in architecture and decoration.

On the motion of Mr. H. V. Lanchester, Vice-President, it was resolved to record on the Minutes the regrets of the Institute for the loss of its young Associate, Mr. Wilfred Hoyle, who had died at Netley Hospital from pneumonia contracted in the trenches while serving with the British Army in France.

Mr. William Weir, Licentiate, attending for the first time since his election, was formally admitted by the President.

The President having presented the Annual Report of the Council and moved its adoption, Mr. Wm. Woodward [F.] seconded the motion and briefly reviewed the Report.

In the ensuing discussion the following members took part: Messrs. G. A. T. Middleton [A.], A. F. Watson [F.], H. Hardwicke Langston [A.], W. H. Atkin-Berry [F.], H. A. Welch [A.], W. B. Davidge [A.], Matt. Garbutt [F.], Max Clarke [F.], and F. R. Farrow [F.]

The President having addressed the Meeting, the motion was put to the vote, and it was

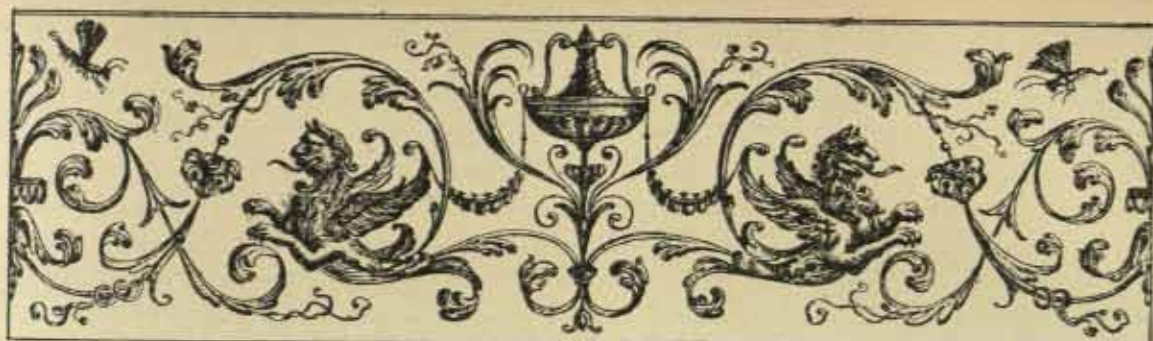
RESOLVED, unanimously, That the Report of the Council for the official year 1914-15 be approved and adopted.

The List of Attendances at Council and Committee Meetings held during the Session was laid upon the table.

Upon the motion of the President a vote of thanks was passed to the Hon. Auditors, Messrs. R. Stephen Ayling [F.] and H. A. Saul [A.] for their services in auditing the accounts.

Messrs. R. Stephen Ayling [F.] and A. W. Sheppard [A.] were nominated Auditors for the ensuing Session.

The Meeting closed at 10 p.m.



CHRONOLOGICAL CATALOGUE OF BUILDINGS AND ASSOCIATED ARTS.

By BARR FERREE [*Hon. Corr. M.*, New York].

THE purpose of this statement is to bring forward a plan for the preparation and publication of a complete Catalogue of buildings in all countries of architectural merit down to modern times. That work of this kind may be coherent it is necessary to have an end, and the date 1800 is suggested as a convenient stopping point. This appears to be the more logical since comparatively few later structures have historical interest, while their architectural interest, in many cases, is quite different from that which characterises earlier buildings.

I.

The advantages of such a Catalogue are so obvious that no extended argument for its compilation seems required. It would be, in brief, a vast storehouse of architectural facts, so far as modern investigation would render possible, divorced from theory and discussion. And as facts are the basis of all science and all history it should primarily serve as the foundation-stone for all future architectural history. By listing all buildings of architectural merit everywhere in the world it would be a final record of all structures existing at the time of its compilation that come within its scope. This in itself is a matter of special value, for notwithstanding the present-day interest in structures of artistic and historic interest, all buildings are subject to immediate destruction, or—which is often worse—transformation. It would, moreover, greatly heighten interest in lesser known structures by the mere fact of recording their existence. Every student of architecture, every one interested in buildings, is more or less familiar with the great monuments of the ages; but there is a multitude of smaller and less familiar structures, often of very great interest, that might well derive additional value from being included in the Catalogue, as attention would thus be directed to them, and a substantial contribution made towards determining their position in the history of art.

But the great argument, if argument be needed, is that much of this work has already been done. The more reason, therefore, for doing it again, on a scale at once broader or narrower. In a broader way it will bring previous unrelated effort into cohesive relationship to a general central plan. In a narrower way it will summarise work that has already been done, reject the less essential for the really essential, and from this different point of view bring a great accumulation of facts into the general central plan.

The study of buildings is no new thing; the compilation of surveys, summaries, and other lists of buildings in geographical, national, or other civic limits, has long been a favourite and useful method of investigation by many scholars in many lands. Such work is being done even more zealously to-day than in the past. But individual effort is necessarily limited to individual means of accomplishment. There still remains to be done the greater work of bringing these separated efforts together, and of summarising in one place and at one time all the work that has hitherto been done.

Nor will the general Catalogue supplant the lesser. Though the field is larger it must contain less detail. And, as will presently appear, so far from absorbing other work it will be rather the master key

which will unlock knowledge of what has hitherto been done, where it has been done, and where it may be found. As a general guide to the literature of buildings the Catalogue will more than demonstrate its own value. One does not use words the less because one has a dictionary.

II.

Proposed primarily as an Architectural Catalogue, the present plan includes also the listing of such other forms of art as are organically related to the structure catalogued or which may be definitely associated with it. A mediæval cathedral, for example, is quite unthinkable without its sculpture or its glass. A summary of the Vatican would be incomplete without its painted decorations, or St. Mark's without its mosaics. But the movable contents of a building, objects which have been brought into it, and which may, in time, be taken out of it, are in a different class, and do not come within the structural qualities of the building. But a catalogue of buildings that paid no attention to their sculpture, painted decoration, mosaic, glass, or, in the case of churches, ignored such permanent features as altars, pulpits, baptismal fonts, tombs and monuments, would be very incomplete indeed. Wherever these manifestations of artistic endeavour are present in the buildings we know to-day, they are integral parts of them and must be noted in the Catalogue.

III.

A Chronological Catalogue of buildings means precisely what it says. The chronology of a building is its life-history, and this is the essence of the Catalogue. In the study of architecture it is more important to know when a building was built than its form and dimensions. The chronology is the key to everything else. It is the one great fact with which architectural history is concerned, and this is true whether it be possible to date the building by a particular year or by periods more or less definite or indefinite. Chronology, therefore, is the starting point.

And it is quite as essential to remember that the present proposal is a Catalogue only. It is not a plan for an assemblage of monographs, important and valuable as that larger work would be. A Catalogue is a Catalogue, and nothing else. But the mere listing of names would, in the present instance, fall utterly short of accomplishing useful work. It remains to show what should be included in the Catalogue to give it real value and utility.

First of all it must be remembered that every item must be of the briefest. The number of buildings to be included in the Catalogue will necessarily be very great. Only the briefest information can be given, and a very great and very special labour will be needed to reduce every statement to the smallest possible limits. Obviously many minor matters must fall by the wayside, and although our Catalogue has not yet been begun, it may seem as though the limitations of the space that can be afforded to each structure would be so restrictive as to diminish its practical value as a chronological record. This criticism is, however, hardly fair; for in a work of this kind it is the essential facts that tell, the leading dates, so to speak. Details which would burden a comprehensive monograph have, quite naturally, no place in the proposed Catalogue.

But in the briefest way the Catalogue would give the country, political sub-division, city, or town in which the building is situated; its name, if any; a condensed and concise chronological summary of its history; brief mention of structural or essential decoration, as sculpture, wall-paintings, mosaics, glass; and a brief bibliography, strictly limited to the most important monograph or paper in which the building is described.

In order that the work may be done in a systematic manner each country would form a Grand Division of the Catalogue. As an alphabetical arrangement of cities and towns best lends itself to ready reference, each structure would be listed under the city or town in which it is situated, or by the town by which it may be most readily reached if located without town limits. With each town should also be given the name of its political sub-division, as the Department in France, the County in England, &c.

Should the structures in a particular division of a country, as the Departments of France, be listed

together, or the country itself taken as the unit for all buildings within it? This, obviously, is a matter for consideration. It may be pointed out, however, that many persons may know that a certain building is in France without knowing in which Department it may be situated. As the purpose of the Catalogue is to facilitate reference and readily yield information, a single alphabetical arrangement under each country may be found to be the most serviceable.

Names of buildings are highly important, not only because they are often of importance in themselves, but as a means of identification. Successive names, when they have been applied to the same structure, should also be cited. The dedicatory names of churches should be given, a kind of information frequently wanting in many architectural histories; a single item involving enormous trouble and research. The nature of the building, whether cathedral, monastic church, collegiate church, parish church, palace, house, town hall, &c., should be added, as well as any previous or other rank or use.

Although the chronology of the building is the essence of the Catalogue, this, as has been pointed out, must be of the briefest description. Only leading and essential dates can be given, and—although only for the purpose of necessary condensation—many minor things ignored. This, however, is a matter of detail, and would not affect the value of the Catalogue as a summary of elemental facts.

The dating should, whenever possible, be by years or centuries, and not by periods or styles, as Early English, Flamboyant, &c. The meaning attached to such terms is not always the same; the year or century offers less opportunity for confusion.

Shall destroyed buildings, those that no longer exist, be included? It might seem, with the enormous number of structures that the Catalogue would be concerned with, those that have ceased to exist might be omitted, if for no other reason than to lessen the work to be done. On the other hand, certain buildings no longer extant have an importance of their own in architectural history, and might, with some propriety, be included. Moreover, what certainty is there that any building now standing will continue until the completion of the Catalogue?

Although it is not proposed to list any structure erected after the year 1800, any important structural changes, such as restorations, additions and the like, made after that date to any building included in the Catalogue, should be noted. It is planned, in short, to completely summarise the chronological history of each building to the present day. To cite two obvious examples. Recent structural changes, as in the church of St. Front at Périgueux, or the rebuilding of the Campanile at Venice, should certainly be mentioned.

Then follows a record of such subsidiary arts as are essential to the present character of the structure; such as the sculptures which are so integrally a feature of the cathedral of Chartres, or of the marvellous windows which are equally important in the same church; or the wall paintings of St. Savin; or the mosaics of St. Mark's; decorative features that are integrally a part of the building as we know it must be noted, although every reference must be of the briefest description.

The entries under each building would then be completed by a brief bibliography. This should include only references of the first importance. No complete bibliography should be attempted; only the one or two essential books or papers in which the student may find a full account of the structure listed. In selecting the bibliography the accessibility of the reference should be given due weight.

IV.

It is apparent that the work proposed in this plan is a gigantic undertaking. It is a work no one man can hope to do. But it is work that can be done by co-operation, and by the co-operation of many students and scholars in many parts of the world.

The work should be carried out under the direction of a board of editors. There should not only be a central board managing the whole undertaking, but it might be helpful to have a national board, or at least a national editor, for each country. The work must not only be systematised in a general way, but it must be systematised in every detail. It is work that must be both stimulated and directed.

Many associates will be required in the undertaking, for the field is world-wide, and it will not be possible, in so general a survey, to depend on results already published. Workers in the field are needed and many of them.

Thus students in special lines of research would be asked to catalogue the buildings within the limits of their specialty. Other students, familiar with the structures of their own locality, would be asked to catalogue those of their own region. With many workers actively engaged in the enterprise, it would be possible to cover a very large field, perhaps the whole field so far as Occidental civilisation is concerned, within a fairly moderate space of time.

Considered from this point of view the plan offers no inherent difficulties, and contains nothing that may not be realised with an expenditure of effort that may, indeed, not be over great. Even the enormous number of entries which would enter into the Catalogue could be gathered and systematised without more difficulties than those which confront the compiler of a dictionary of any language. The effort required would not be small, but there are no insurmountable difficulties. The solution of the problem is the united effort of many workers; and of these, surely, there will be no lack, nor will enthusiasm be wanting.

V.

It remains to consider the question of publication; for the Catalogue must be published, or it will entirely fail in useful purpose. The publication of this work would be the largest item of expense, and it may be frankly stated that this would not be slight; but the necessary funds will surely be forthcoming in due season.

One method would be to seek grants of moderate amount from architectural, archaeological, and other learned societies, from institutions, from the universities and special schools, and from individuals. The number of organisations and institutions that might properly be appealed to in support of this plan is so large that a number of relatively modest subscriptions, which in no case would be a burden upon the subscribing body, would yield a total that should be ample to cover the cost of publication.

I am well aware that the various organisations that might be invited to co-operate in this work have many plans of their own, and even special work which absorbs their thought, their energy, and their means. Yet nearly all the vast effort being put forth in architectural and archaeological endeavour is individual and separated and without relation to the work of others. But here is a plan in which every organisation at all concerned with the scope of the theme, may take part. It might very well help to give definite impetus to work that may now be in process of doing without a realising sense of its relationship to other work. I appreciate the difficulties of bringing about this co-operation, but do not believe it is impossible of practical realisation. Surely it is worth trying.

This proposal as to organisation and co-operation in the publication of the Catalogue is, however, a suggestion only, and is quite apart from the general plan of the work proposed. It is merely one way of accomplishing the publication of the Catalogue; other and more practical ways may be brought forward. It is not in any sense an integral part of the plan.

VI.

Such, then, is the plan, with some suggestions as to how it may be carried out, not only in the gathering of literary material, but in the matter of publication, which, after all, is the final end to be sought. I have indicated generalities only, for many minds must join in this work if it is to be undertaken with a serious thought of completion, and interest that might be excited in a general plan might well be repelled by insistence on details. The idea, I venture to think, is the important thing; better methods of realisation than have here been brought forward may be proposed. The real point is not how to do the thing, but to do it. I believe it to be well worth the effort, to be worth any effort. I merely make the suggestion of what seems good and useful work waiting to be done.

It need hardly be pointed out that the original draft of this proposal was made before the present

dreadful war, with its hideous devastation of loved monuments, was begun. If a further argument for the utility of this work were needed it has surely been answered in the most emphatic way. Not only has a ruthless war shown that many most important monuments have been swept into destruction in the course of a few months, but the recent earthquake in Italy has demonstrated the danger that confronts many important structures from natural injury. The present is, of course, no time to bring forward a plan for international co-operation as has here been suggested, but surely at no time will the importance of such a general Catalogue of Buildings be brought closer home to the student of architecture.

REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1914-1915.

Adopted at the Annual General Meeting, Monday, 3rd May, 1915.

SINCE the publication of the last Annual Report the Council have held 20 Meetings, of which the Council elected in June have held 16. The following Committees appointed by the Council have met and reported from time to time on the matters referred to them :—

Board of Architectural Education.
Competitions Committee.
Fellowship Drawings Committee.
Finance and House Committee.
Official Architecture Committee.
Royal Gold Medal Committee.
Sessional Papers Committee.
Town Planning Committee.
Constitutional Committee.

Reinforced Concrete Committee.
Selection and General Purposes Committee.
Paris Architectural Exhibition Committee.
Honorary Members Committee.
Annual Dinner Committee.
Conditions of Contract Revision Committee.
Architects' War Committee and Sub-Committees.
Timber Specification Committee.

Particulars of the work of some of these Committees are embodied in this Report under various headings.

Obituary. The losses by death have been as follows :—*Fellows* : Bernard William Hurt Brameld, John Brooke, Frederick Dare Clapham, Richard Creed, Henry Dawson, William Henry Duffield, William Newton Dunn, Stockdale Harrison, Edwin Arthur Johnson, Henry Seton Morris, James Herbert Stones. *Retired Fellows* : Edward Ingress Bell, Samuel Flint Clarkson, Harry Wilkinson Moore. *Associates* : Alfred Aitchison, Arthur Charles Bulmer Booth, George Herbert Burstow, Jonathan Tebbs Bottle, Austin Heyes, Wilfred Hoyle, Frederic Kirk, James Lindsay, Arthur Marshall, Francis Thomas William Miller, John Henry Arthur Phillips, John James Smith, Christopher Boswood Thomas, Samuel Douglas Topley, Thomas Robert Whittaker. *Licentiates* : Ernest George Allen, William Bell, Thomas Woodbridge Biggs, Godfrey Colles, John Henry Cossar, Thomas Monkman, Bailey Scott Murphy, John Preece, Frederick Robert Edwin Sladdin, Thomas Sinclair, William Cowley Stevenson, William Basil Stefanoni, George Tinniswood. *Honorary Associates* : Walter Crane, Sir Edwin Durning-Laurence, Sir Charles Augustus Hartley, The Earl of Wemyss. *Hon. Corresponding Members* : Johannes Otzen. Obituary notices of many of these members have appeared in the *JOURNAL*. The Council desire to record their profound regret at the sudden death of one of their youngest members, Mr. S. Douglas Topley, who had so recently entered upon an honourable and promising career.

Membership. The following tabular statement shows the present subscribing membership of the Royal Institute compared with corresponding periods of 1911, 1912, 1913, and 1914 :—

Year.	Fellows.	Associates.	Hon. Associates.	Total.
1911	862	1,509	55	2,426
1912	859	1,581	56	2,496
1913	847	1,630	54	2,531
1914	852	1,695	56	2,603
1915	857	1,713	54	2,624

During the official year since the last Annual General Meeting 29 Fellows have been elected, 57 Associates, and 3 Honorary Associates.

Licentiates. There are 2,017 Licentiates on the roll. Since the publication of the last Annual Report 15 Licentiates have passed the Examination qualifying for election to the Fellowship, and 12 of these have been duly elected as Fellows.

The Examinations. The Progressive Examinations were held in June and November-December 1914. The Preliminary was held in London, Birmingham, Bristol, Cardiff, Dublin, Glasgow, Leeds, Liverpool, Manchester, and Newcastle. The Intermediate was held in London, Belfast, Bristol, Cardiff, Dublin, Glasgow, Leeds, Liverpool, Manchester, and Newcastle. The Final and Special Examinations were held in London, and the Special Examination for candidates overseas in July 1914 in Melbourne, and in December 1914 in Toronto. The Council desire to record their thanks for the valuable services rendered by the Honorary Secretaries and the Examination Committees of the various Allied Societies. The results are shown in the following table:—

	Admitted.	Exempted.	Examined.	Passed.	Relegated.
PRELIMINARY EXAMINATION . . .	227	73	154	111	43
INTERMEDIATE EXAMINATION . . .	163	48	115	66	49
FINAL AND SPECIAL EXAMINATIONS . .	133	—	133	62	71

The Ashpittel Prize was awarded to Mr. George Eric Francis.

The Statutory Examination qualifying for candidature as District Surveyor in London, and for candidature as Building Surveyor under Local Authorities, was held in London in October 1914. There were 5 candidates, of whom 2 passed.

The Council desire to thank the Hon. Examiners for the continuance of their invaluable services.

The Henry Jarvis Studentship. The second Studentship at the British School at Rome awarded under the Henry Jarvis Bequest was awarded to Mr. Ernest Cormier, who is now in residence at Rome, and the Henry Jarvis Scholarship at the Architectural Association was awarded to Mr. A. B. Hamilton. The Competition for the Scholarships and Studentships at the British School at Rome will not be held this year on account of the War.

Sessional Papers. During the Session the following Papers have been read:—

- 15th Nov.: "The Future of the Surrey Side," by Paul Waterhouse [F.].
- 14th Dec.: "The Work of the late John Belcher, R.A.," by J. J. Joass [F.].
- 18th Jan.: "Ecclesiastical Buildings of Northern Italy," by F. C. Eden.
- 15th Feb.: "Architectural Sculpture in Spain," by Andrew N. Prentice [F.].
- 15th March: "English Church Monuments," by James Williams.
- 29th March: "King's College Hospital," by W. A. Pite [F.].
- 19th April: "The Design and Construction of Buildings for Industrial Purposes," by Segar Owen [F.].

The following Paper remains to be read:—

- 17th May: "The Evolution of the Architectural Competition," by H. V. Lanchester [F.].

Appointments. Since the issue of the last Annual Report the Council have appointed the following gentlemen to serve as representatives of the Royal Institute:—

Cheltenham Town Planning Conference and Exhibition, June 1914 . . .	Professor S. D. Adshead.
Professional Classes War Relief Council	The President and the Secretary.
Belgian Town Planning Conference	The President and Sir Aston Webb, R.A.
Organising Committee Belgian Town Planning Conference . . .	Mr. H. V. Lanchester.
University of London Architectural Education Committee . . .	Messrs. John Slater and H. V. Lanchester.
Belgian Town Planning Joint Committee	Mr. Paul Waterhouse.

During the course of the year the President has appointed the following architects to act as Arbitrators in connection with building disputes:—

Atkin-Berry, W. H.	Cubitt, H. W.	Little, J. W.	Snell, A. Saxon.
Awdry, G. C.	Dunkerley, F. B.	Mathews, J. Douglass.	Shepherd, Herbert.
Bidlake, W. H.	Garbutt, Matt.	Munby, Alan E.	Slater, John.
Clarke, Max.	Gotch, J. Alfred.	Niven, D. Barclay.	Stoner, Alfred.
Cresswell, H. O.	Greenop, Edward.	Peach, C. Stanley.	White, W. Henry.
Cross, A. W. S.	Hubbard, George.	Satchell, H. A.	Woodward, Wm.

The following have been the President's appointments to Assessorships during the year commencing May 1914 :—

Competitions.

Sunderland	Boys' School	T. Edwin Cooper.
Southport	Technical Schools	Paul Waterhouse.
Seaham Harbour	Council Chambers and Offices	Wm. Milburn.
Conway	Cottage Homes Scheme	G. Hastwell Grayson.
Hammersmith	New Nurses' Home	Edwin T. Hall.
Redhill	Police and Fire Station	E. Vincent Harris.
Peckham	Church	P. Morley Horder.
Dudley	Public Buildings	S. Perkins Pick.
Newcastle-on-Tyne	Town Hall	H. V. Lanchester.
Abergavenny	Workhouse	Glendinning Moxham.
Hastings	Winter Garden	Prof. S. D. Adshead.
Tottenham	School	Leonard Stokes.
Nottingham	Three Branch Libraries	J. Alfred Gotch.
Middlesbrough	Elementary School	John W. Simpson.
Dundee	Extension of the Harris Academy	A. N. Paterson.
Bromborough Estate	Erection of 14 blocks of cottages	T. Geoffrey Lucas.
Brighton	Concert Hall	Prof. S. D. Adshead.
Bradford	Town Planning	Reginald Blomfield, R.A.
Plymouth	Co-operative Society Premises	Paul Waterhouse.

Grants. Since the issue of the last Annual Report the Council have made the following grants :—

Architectural Association	£350 0 0	Prince of Wales's Fund	£105 0 0
Architectural Association (from the Anderson-Webb Fund)	250 0 0	Architects' Volunteer Training Corps	50 0 0
Architects' War Committee Special Relief Fund	250 0 0	Architectural Association Sketch Book	25 0 0
Exhibition of Architecture, Paris, 1914	281 0 0	Royal Architectural Museum	21 0 0
Library Fund	200 0 0	British School at Rome	21 0 0

Royal Gold Medal.

The Royal Gold Medal was awarded to M. Jean Louis Pascal for his distinguished services as a teacher of architecture and for his executed works as an architect. M. Pascal was unfortunately prevented by delicate health from being present at the Royal Gold Medal meeting, but the Medal was received on his behalf by M. Roux of the French Embassy.

It has been decided to award the Medal this year to Mr. Frank Darling, of Toronto, for his executed works as an architect. His Majesty the King has graciously signified his approval of the award, and the Medal will be presented to Mr. Darling at the General Meeting on the 21st June.

The War. In consequence of the outbreak of the War it was decided that the consideration of all matters of policy of a controversial nature should be deferred. The question of a new Charter and of the formation of a Register of Architects has therefore remained in abeyance.

More than 1,200 members of the architectural profession are now embodied in various branches of the Forces, and it has been decided to remit the subscriptions of all Members and Licentiates of the Institute who are serving their country in this way.

The Prize Competitions for the year have been postponed for twelve months, and arrangements have been made to avoid the penalising of candidates for the Examinations who have joined the Colours.

A grant of 100 guineas has been made to the National Relief Fund; and the Architects' Volunteer Training Corps, which was formed by the Architectural Association, has received financial and other assistance.

A register of Belgian architects who have come to England as war refugees has been compiled, and some of the privileges of Institute membership have been granted to them during the period of the War.

In conjunction with other artistic and learned societies, the Royal Institute submitted a protest to the American Government against the destruction of buildings and monuments by the Germans in Belgium and France.

The financial difficulties of the Architectural Association, arising from the patriotic action of so many of its members and students, have been sympathetically considered by the Council, who have

shown their appreciation of the value of the educational work of the Association by making a special grant of £250 in addition to the usual annual grant of £100, and by making a further grant of £250 from the balance of the Anderson-Webb Fund.

The question of the desirability of drawing up special "War clauses" for use in connection with the R.I.B.A. Form of Contract was very carefully considered by the Council, who had the benefit of the advice of the Practice Committee, and it was finally decided that no official action in this direction was advisable. The course of events in the building trade since the early weeks of the War appears to indicate that this decision was a wise one.

A few days after the beginning of the War the President summoned a meeting to consider what action should be taken in view of the crisis, and as a result of this meeting a committee, known as the Architects' War Committee, was formed, which had the advantage of the services of members of the Architects' Benevolent Society, the Architectural Association, and the Society of Architects, and of architects not connected with any of the architectural societies.

With the aid of two subordinate committees, known as the Selection Committee and the Professional Employment Committee, a great deal of valuable work has been done. Assistance has been offered and given to the War Office and other Government departments, a substantial contribution to the National Relief Fund has been raised by subscriptions from members of the profession, and a War Relief Fund for Architects has been instituted, which has already been instrumental in relieving distress arising from unemployment in the profession.

The interests of the profession have been safeguarded by the assiduous personal efforts of the President, who has been in constant communication with various departments of the Government since the outbreak of the War.

Legal Defence of Architects. The scheme for the establishment of a Legal Defence Union for Architects, which was referred to in the last Annual Report, was submitted to the members at a Special General Meeting, but in the absence of a quorum no progress could be made with the consideration of the scheme drafted by the Board of Professional Defence.

Professional Conduct. The Council have taken the necessary action in connection with all the complaints as to the professional conduct of members that have been laid before them. Several members have been dealt with under the provisions of By-laws 24 and 25 for taking part in competitions which had been vetoed by the Council. It has been decided to publish an advertisement in selected newspapers from time to time warning the public against professional advertising by architects.

The Schedule of Charges. The discussion of the revised Schedule of Charges has been completed, and the new scale will be brought into operation by the Council in due course.

Official Architecture. The Committee mentioned in the last Annual Report has completed its consideration of the matters referred to it, and has presented its Final Report to the Council. This Report is of such a controversial nature that the present is not a suitable time for its discussion, and the Council have accordingly decided to defer its consideration for six months.

The Allied Societies. On the recommendation of the Committee mentioned in the last Annual Report a number of desirable changes have been made in the organisation and the boundaries of several of the Societies.

Finance The usual Financial Statement appended to this Report indicates that, in spite of the adverse effects of the War, the finances of the Royal Institute are in a satisfactory state. The remission of the subscriptions of those members who are serving with the Forces and the reduction in the examination fees paid by Students are the principal causes which have led the Finance and House Committee to anticipate a small deficit on the year 1915. When normal conditions again exist it is to be expected that there will be a substantial surplus of income over expenditure.

The liquidation of the Architectural Union Company has now been completed, and the Company's lease has been transferred to the Royal Institute.

REPORT OF THE BOARD OF ARCHITECTURAL EDUCATION.

The Board have held thirteen meetings since the issue of the last Annual Report.

Mr. Ernest Newton, who had acted as Chairman since July, 1912, resigned the office on his election as President, and Mr. John Slater, Vice-Chairman, was elected Chairman. Mr. George Hubbard was elected a Vice-Chairman in Mr. Slater's place.

The following Committees have met and reported from time to time on the matters referred to them—viz., Testimonies of Study, Examinations, Exemptions, Preliminary Examination, Joint Committee of Board and Examiners.

Problems in Design.—During the year 469 designs have been received and adjudicated on, and of these 329 have been approved, being a decrease of 55 and 44 respectively on the previous year, this result being doubtless due to the War. These designs have been publicly exhibited in the Galleries of the Royal Institute for three days after each adjudication, and a large number of visitors have availed themselves of the opportunity of viewing them. The Council, on the recommendation of the Board, have reserved the Galleries for the future for the bi-monthly examination and exhibition of these designs.

The Examinations.—The Board have conducted the Royal Institute Examinations, and the results as reported to the Council have been published. Candidates for the Final Examination are now required to deposit with the Moderator at the end of the first day of the Examination in Design a tracing showing the general lines of his design. An additional three hours on the third day of the Examination have been allotted to this subject. With the approval of the Council, the Preliminary Examination will be discontinued after June, with the exception of the subjects of Freehand Drawing and Geometrical Drawing or Perspective; but every candidate for registration as Probationer must satisfy the Board that he has attained a sufficient standard of general education. In connection therewith the Board have had under consideration a proposal from H.M. Board of Education with reference to a scheme for improving the existing arrangements for the Examinations in Secondary Schools in England. After consideration of the scheme, the Board have recommended the Council to accept a pass in the first Examination which the Board of Education propose to institute as satisfactory evidence of the candidates having attained a sufficient standard of general education.

With reference to the Intermediate and Final Examinations the Board gratefully acknowledge the ungrudging labour which for many years past has been given by the Honorary Examiners to these Examinations, but it was felt that with the large number of different Examiners for the same subjects it was difficult to maintain a uniform standard for all the candidates, and, after lengthy and careful consideration, the Board prepared a scheme for modifying the Examinations, reducing the number of Examiners, and recognising their work by payment from the Institute funds. It was found that in all the kindred professional societies which hold Examinations the fees paid by the candidates were considerably higher than those in operation at the Institute, and the Board believe that by raising these fees a fund would be formed from which adequate remuneration could be paid to the Examiners without trenching largely on the general funds of the Institute. The alterations recommended are that: as to the Preliminary Examination the fee should remain as at present; for the Intermediate the fee should be £6 6s. instead of £3 3s. as at present; the Final fee £6 6s. instead of £4 4s.; and the Special £10 10s. instead of £6 6s. In the two latter cases the Examination fees are to cover the Entrance Fee paid by Associates.

The modifications suggested in the Examinations are as follow:

INTERMEDIATE EXAMINATION.

Subject A.—Two Papers on the Principal Styles and General History of Architecture, and the purpose of Architectural Features in relation to the buildings in which they occur.

Subject B.—Two Papers on (1) Simple Applied Construction in Elementary Design and the Properties and Uses of Ordinary Building Materials. (2) Theoretical, including Stresses and Strains.

Subject C.—A paper dealing with one of the following subjects :—

1. HISTORICAL ARCHITECTURE—showing knowledge of one of the following periods, to be selected by the Candidate :
(a) Greek and Roman : (b) Byzantine and Romanesque : (c) French and English Gothic : (d) Italian, French, and English Renaissance.
2. MATHEMATICS AND MECHANICS.—Algebra, up to and including the binomial theorem.—The use of the Slide Rule.—Plane Trigonometry, including the Solution of Triangles.—Descriptive Geometry, including the Mensuration of simple Plane and Solid Figures.—Simple Conic Sections treated geometrically.—General Statics and Dynamics, including graphic statics.
3. DESIGN—Dealing with simple subjects.

Subject A to be divided between two Examiners, who shall also take the Papers in *Subject C1*.

Subject B to be divided between two Examiners, who shall also take *Subject C2*.

FINAL EXAMINATION.

Subject A.—Design for Building of moderate dimensions, or a portion of a more important edifice, to be made from particulars given. Drawings to comprise plans, elevation and section, to a scale of $\frac{1}{4}$ -inch to the foot, some details to a large scale, with a sketch perspective. The subject will be communicated in general terms to the Student some days before the Examination.

Subject B.—Two Papers on Construction, including Iron and Steel Construction, Ferro-Concrete Shoring and Underpinning.

Subject C.—Hygiene, including Drainage, Ventilation, Heating, Lighting and Water Supply.

Subject D.—The Properties and Uses of Building Materials.

Subject E.—The Ordinary Practice of Architecture, including Specifications and the Law of Contracts.

Subject B and *Subject D* to be divided between the two Examiners who set the Papers in *Subjects B1, B2, and C2* of the Intermediate Examination.

Subject C and *Subject E* to be divided between two Examiners. All the foregoing Examiners to be paid.

With reference to the Design (Intermediate and Final) and Thesis, it was suggested that at present these Examiners should remain unpaid.

The whole of these modifications, which were subsequently approved by the Council, would have come into operation this year had it not been for the outbreak of the War, and it is hoped that the new scheme will be in full working order next year.

The Board, with the approval of the Council, have granted the following specific privileges to candidates who have joined the Colours :

Candidates for the Intermediate Examination whose Testimonies of Study are approved to be registered as Students.

Candidates for the Final Examination who have had one or more Problems in Design approved may be exempted from submitting others.

On the recommendation of the Examiners, the time for the Written and Graphic portions of the Statutory Examination has been extended from one to two days.

Education Facilities.—The Ulster Society of Architects have asked the Board to inspect the School of Architecture at the Municipal Technical Institute, Belfast, with a view to its being placed on the list of recognised schools. Mr. Paul Waterhouse, as the representative of the Board, visited the School. After consideration of Mr. Waterhouse's report, the Board—while not at present placing the School on the list of those whose course is recognized as exempting from the Intermediate Examination—have recommended the Council to insert particulars of the School amongst the Educational Facilities in Ireland mentioned in the KALENDAR.

Recognized Schools of Architecture.—The Certificate of the two full years' course at the Robert Gordon Technical College, Aberdeen, supplemented by three years' work in the evening classes, is now accepted by the Board as exempting from the Intermediate Examination. Mr. H. V. Lanchester, who visited the School at the request of the Board, and reported favourably on the course of study there, has been appointed the External Examiner to the School.

Foreign Students in English Architectural Schools.—Candidates other than British subjects who are desirous of possessing evidence of their having obtained the status though not the rank of an Associate of the Royal Institute will for the future be admitted to the Final Examination, and in the event of their passing will be furnished with a certificate to that effect.

National Scholarships.—The Board, at the request of the Board of Education, have conducted the Examination of candidates for the National Scholarships in Architecture. These candidates are required to pass the Intermediate Examination, but are exempt from submitting the Testimonies of Study required from Institute candidates.

The Board of Education have consulted the Board with reference to the awarding of National Art Scholarships, and have been informed that if the Scholarships are to be held at a Final School they should be awarded before candidates have passed the Final Examination, but that if such Scholarships are in the nature of Travelling Studentships they should be awarded after the candidates have passed the Final Examination.

REPORT OF THE ART STANDING COMMITTEE.

Seven meetings of this Committee have been held since the issue of the last Report.

Mr. Edward Warren has acted as Chairman, Mr. H. H. Statham as Vice-Chairman, and Messrs. A. Wyatt Papworth and Harry Redfern as Honorary Secretaries.

Of many matters which have engaged the attention of this Committee during the Session the following are perhaps the most important :—

A proposal to convert the old Grammar School of Edward the Sixth at Shrewsbury (now a library) into municipal offices was dealt with at some length. Happily the scheme has now been abandoned.

The proposal to demolish the interesting building in Great Queen Street, W.C., known as " Boswell's House," has been the subject of great concern to the Committee, who have very carefully considered the matter. Various ways of presenting the case against demolition to the freeholder—both alone and in conjunction with other societies—have been fully discussed. It has been found impossible, however, to save the building, which has now been pulled down, but it is hoped that arrangements may be made by which some portion of the façade may be re-erected in one of the Galleries of the Victoria and Albert Museum.

This museum, desiring to add to its collection of measured drawings of old work (especially French, German, Spanish, and Scandinavian), invoked the assistance of the Institute with this end in view. The Committee is of opinion that the object might perhaps be attained by directing the attention of students and others to it through a suitable paragraph in the Institute Journal.

The scheme now on foot to do away with the present picturesque wooden bridge spanning the Thames at Goring, and to replace it by one of ferro-concrete, has evoked no little dismay. The matter has been discussed at considerable length, with the result that steps are now being taken to influence opinion against the change, or at least to insure that if possible the design of the new bridge shall be in harmony with its surroundings.

The question of holding exhibitions in the Institute Galleries is one which has received attention at the hands of this Committee, who drew up and presented a report to the Council thereon, in view of arranging for an exhibition of rare prints and drawings in the near future. It was felt, however, that the present time is not entirely opportune, and the scheme is therefore set aside for the moment ; but it is hoped to bring it forward again when circumstances permit.

A sub-committee has been appointed to consider the incidence of certain sections of the London Building Act upon Design. Several meetings have been held by this sub-committee, but the result of its deliberations is not yet available. The question, though difficult and intricate, is one which is felt to be important and worthy of consideration.

Suggestions for Papers for the forthcoming session have occupied the Committee's attention, and a somewhat lengthy list has been drawn up and submitted for approval. The subjects range over a wide field, and it is thought that some of them may meet with approval and success if suitable authors can be found.

REPORT OF THE LITERATURE STANDING COMMITTEE.

Seven meetings of the Committee have been held since the election of the present members. At the beginning of the Session the following officers were elected : Mr. W. H. Ward, M.A., *Chairman* ; Mr. C. E. Sayer, *Vice-Chairman* ; Mr. C. Harrison Townsend and Mr. W. G. Newton, M.A., *Hon. Secretaries*.

During the course of the Session the Chairman, Mr. W. H. Ward, and Mr. W. G. Newton (Hon. Secretary) having enlisted, resigned their positions on the Committee. Mr. Sayer was thereupon appointed Chairman, and Mr. Martin S. Briggs undertook the position of junior Hon. Secretary.

The schemes which the Literature Committee have had under consideration for some time, with regard to providing furniture for the better preservation of the Institute's collection of drawings, have been again considered by the Committee, and further reports with estimates of cost having been submitted to the Council were approved. The work is now in hand and the new fittings, it is hoped, will shortly be placed in the Library. A further addition to the Library furniture will be a more convenient and larger type of table for the use of readers.

The Committee have been in communication with the Science Committee in order that the collection of scientific books in the Reference and Loan Libraries may be extended and kept up to date.

The Committee have decided to subscribe for the J. M. Whitelaw Memorial publication.

The Librarian has been allowed to make a further choice of books from the Library of the late Mrs. Arthur Cates, through the courtesy of Miss M. Rose (her niece), who has also presented a collection of casts of intaglios.

Through the kind offices of Mr. Arthur Keen, a collection of original drawings by A. W. Pugin was presented by Mr. J. Williams.

The question of the continuance of the subscriptions for German periodicals having been considered, the Committee decided that the subscriptions should be discontinued during the period of the War.

Many valuable books have been purchased during the year, the titles of which have been published in the *Supplement* to the Institute JOURNAL.

The Committee have under consideration the advisability of compiling an index of Belgian and French architectural works which have been destroyed during the War in France and Belgium. It is proposed to confine the index to works which already form part or may be added to the Institute collection.

The Committee have made appointments of members for the respective Sub-Committees: Records Sub-Committee, Sessional Papers Sub-Committee, and the JOURNAL and KALENDAR Sub-Committee.

The following is the Librarian's Report to the Committee:—

During the twelve months ending the 31st March of the present year 200 volumes have been added to the Library of the Royal Institute, exclusive of periodicals, reports and transactions of Societies, and parts of works issued in serial form.

The number of works presented was 79 volumes and 15 pamphlets.

The number of works purchased comprised 121 volumes, of which 42 were added to the Loan Library.

The attendance of readers in the Reference Library numbered 4,632.

The number of books issued on loan was 2,372.

The number of tickets issued for admission to the Library, other than to members of the Institute or to Students and Probationers, was 114.

The number of books issued through the post was 298.

During the first months of the war, the attendance of readers in the Library diminished, and fewer books were issued on loan.

Donations of books, pamphlets, or drawings have been received from His Majesty the King, Mr. Robert Williams, Sir William Chance, Herr Alajos Hausmann, Mr. Benj. Ingelow, Mr. B. T. Batsford, Mr. T. Fisher Unwin, Mr. W. R. Ware, Miss M. E. L. Rose, Mr. Stanley Peach, Mr. G. A. Taylor, Mr. Francis Bond, Mr. R. A. Cram, Mr. E. A. Jollye, Messrs. Chatto and Windus, Mr. J. Williams, Mr. Andrew Oliver, Mr. Ronald P. Jones, Mr. W. H. Goodyear, Ministero dei Lavori Pubblici (Italy), Engineering Standards Committee, Archaeological Survey of India, &c.

Among the books purchased or presented during the year may be mentioned: Barozzi da Vignole's *Règles des Cinq Ordres d'Architecture*; Bosse's *Les Ordres de l'Architecture antique*, &c.; Ebersolt and Thiers' *Les Eglises de Constantinople*; Joyce's *Mexican Archeology*; Haverfield's *Ancient Town Planning*; Gertrude Lowthian Bell's *Palace and Mosque at Ukhaïdir*; La Hire's *L'Architecture civile* (in manuscript); Molmenti's

Venice; De la Rue's *Traité de la Coupe des Pierres*; Venturi's *Storia dell' arte Italiana* (in continuation); Perrault's *Abrégé des dix livres d'Architecture de Vitruve*; Contet's *Les Vieux Hôtels de Paris*; Yriarte's *Florence and Venice*; Hausmann's *The Royal Palace at Buda-Pesth*; St. John Hope's *Windsor Castle*; Guicciardini's *Belgica, sive inferioris Germaniae descriptio*; Gusman's *L'Art décoratif de Rome* (in continuation); Scott's *Architecture of Humanism, &c.*; Depage and others, *Les Constructions des Hôpitaux*; Richards's *Report . . . on the condition, improvement, and town-planning of the City of Calcutta*; Ross's *Florentine Villas*; Hewison's *The Runic Roads of Ruthwell and Bewcastle, &c.*

LIBRARY STATISTICS 1914-15.

DATE.	DAY ATTENDANCE.			EVENING ATTENDANCE.			Books Issued on Loan.
	Members.	Non-Members.	Total.	Members.	Non-Members.	Total.	
1914.							
April	134	142	276	93	113	206	231
May	194	175	369	114	134	248	272
June	182	173	355	105	119	224	237
July	126	136	262	52	79	131	220
August	Reference Library Closed.			Reference Library Closed.			60
September	103	95	198	57	38	95	156
October	133	117	250	78	68	146	180
November	134	138	272	57	70	127	174
December	104	125	229	70	83	153	167
1915.							
January	113	140	253	40	53	93	273
February	122	109	231	42	68	110	211
March	151	111	262	47	95	142	191
TOTAL	1,496	1,461	2,957	755	920	1,675	2,372

REPORT OF THE PRACTICE STANDING COMMITTEE.

Twelve meetings have been held since the date of the last Report, of which two have been special meetings.

The officers elected at the commencement of the session were: Mr. Max Clarke, Chairman; Mr. Edward Greenop, Vice-Chairman; Messrs. Herbert A. Satchell and Matt. Garbutt, Honorary Secretaries.

The Committee have had under consideration various matters, of which the following are the most important:—

Revision of Conditions of Contract.—As was recorded in the last Report, the Sub-Committee dealing with this matter were by their own desire relieved of their task, and on the suggestion of the Committee, the Council, towards the end of last session, appointed a Special Committee to deal with the subject and to sit continuously until their labours are completed. This Committee are still at work.

The question of a Form of Sub-Contract and the position of the sub-contractor generally, to which reference was made in the Committee's last Report, have been referred to the Special Committee, and it is understood that a Report on these matters has been made to the Council.

Sessional Paper.—The Committee were to have been responsible for short Papers to be read at an ordinary meeting on "The Revision of Metropolitan and Provincial Building Regulations," but, in view of the appointment by the Local Government Board of a Departmental Committee to deal with the subject, before which Committee the Institute might be represented, it was considered desirable to postpone any public discussion on the subject until after the Local Government Board has issued its Report.

Notes on Dilapidations.—The suggested revision of the Institute Handbook on Dilapidations originally published under the ægis of the Committee in 1903, and which is now out of print, has been

submitted in draft by Messrs. Sydney Perks and Edward Greenop, and is being considered by the Committee.

Special Committees.—The arrangement initiated by the Council last session, whereby the Standing Committees were requested to supervise and control various Committees which had hitherto been appointed by and had reported directly to the Council, was replaced this session by an arrangement whereby such Committees became Sub-Committees of the various Standing Committees. Under this scheme the Practice Committee were requested to appoint Sub-Committees to deal with questions of professional conduct. The two first-named subjects having been dealt with by the general body of the Institute, it was only found necessary to appoint the Professional Conduct Sub-Committee, to which all questions relating to professional conduct have been referred. By this Sub-Committee a large amount of very useful work has been done under the chairmanship of Mr. George Hubbard, with Mr. Edwin Gunn as Hon. Secretary, and it promises to become a most useful adjunct to the Practice Committee in relieving it of a considerable amount of detailed work.

Professional Conduct, &c.—At the invitation of the Council, the Committee made suggestions which have been adopted for bringing more prominently before the Members and Licentiates of the Institute in the *KALENDAR* and elsewhere the various rules laid down by the Institute on the subject of professional conduct, &c., to which a note as to auctioneering and estate agency has been added. The Committee are now considering, at the request of the Council, the compilation of a more explicit and amplified Code of Rules on the whole subject.

Arbitrators under the R.I.B.A. Contract.—The frequency with which the President is appealed to for the appointment of arbitrators under the R.I.B.A. Contract appeared to render it desirable that stereotyped Forms of Application and Appointment should be employed. The Committee has prepared such Forms and they have been adopted for the use of the President.

In view of the increasing number of cases in which arbitration proceedings prove abortive after the appointment of an arbitrator by the President, and of the consequent loss occasioned to arbitrators, it has been found advisable to prepare some suggestions for their use. These suggestions, after approval by the Institute's Solicitors, are being published in the *JOURNAL* and issued as an Institute Paper.

War Clauses in Conditions of Contract.—The Committee, at the request of the Council, carefully considered the best means of dealing with the difficulties in building operations arising out of the war crisis. They appointed a Sub-Committee, which interviewed representatives of the builders and obtained their views, and devoted a considerable amount of time and trouble to the drafting of special clauses for insertion in the Conditions of Contract, and to the preparation of a very careful Report on the subject. The Committee's recommendations, however, were not adopted by the Council.

South Australian Institute of Architects and Charges for Plans.—The question of the desirability of charging by percentage for additional copies of plans, &c., supplied to builders was referred by the South Australian Institute of Architects to the Council for its opinion, and by the Council to the Committee, who reported that they did not consider such a basis of charging could be recommended.

Concrete Institute and Standard Measurement for Reinforced Concrete.—The Concrete Institute having submitted to the Council a draft Form for the Standardization of the Measurement of Reinforced Concrete, this was referred to the Committee, and after careful consideration by a Sub-Committee, was approved, with the rider that reinforced concrete should be shown on the architect's drawings, and the quantities for it taken off in the usual way. A suggestion that the Institute should take part in a conference on the subject with the Concrete Institute was also approved.

Kindred Societies.—It is gratifying to record that several enquiries have been received from kindred societies inviting the co-operation of the Institute in dealing with points of professional practice. Amongst them may be mentioned an enquiry from the Surveyors' Institution in regard to the

question of attendance on sub-contractors, and the questions from the South Australian Institute of Architects and the Concrete Institute referred to above.

Members' Queries.—A large number of enquiries bearing upon points of professional practice and kindred matters have been received and dealt with. Of these, nearly one-half were concerned with difficulties arising out of the existing Conditions of Contract and the Schedule of Charges, and it may fairly be anticipated that a large number of the difficulties which arise in the use of both these documents will be removed when their respective revisions have been adopted. Most of the enquiries received, being necessarily of a confidential character, cannot be referred to in detail. In regard to questions as to professional charges, the growing number of cases which have been submitted to the Committee by Members and Licentiates from all parts of the country asking for advice as to the reasonableness of professional charges, and often accompanied by a considerable mass of documents and drawings, involving the expenditure of a large amount of time and labour for even their cursory perusal and examination, has compelled the Committee to decline in future to give opinions on such matters, especially when submitted *ex parte*, and likely to lead to legal proceedings, unless some matter of principle is involved. In accordance with their established practice, the Committee continue to be careful to express no opinion on matters *sub-judice* or on *ex-parte* statements, expressions of opinion on which might be detrimental to their brother professionals.

REPORT OF THE SCIENCE STANDING COMMITTEE.

Since the date of their last Report the Science Standing Committee have held ten meetings, of which one was specially convened. The attendance at each meeting averaged approximately ten. Officers for the current session were elected as follows: Chairman, Mr. Frederic R. Farrow; Vice-Chairman, Mr. E. W. M. Wonnacott; Hon. Secretaries, Messrs. Geo. Leonard Elkington and Osborn C. Hills.

Westminster Hall Roof.—On 18th June 1914 the Committee were enabled to inspect the roof of Westminster Hall, and its defective condition was then closely examined from the temporary scaffolding by eight members. Mr. Frank Baines, M.V.O., Principal Architect in charge of Royal Palaces, etc., kindly attended and described the remedial works to be undertaken by H.M. Office of Works under his direction. The Committee look forward to paying a further visit during the actual progress of the work of reinforcing the roof trusses.

Tests on the Weathering Properties of Building Stones.—The Committee have appointed a small Sub-Committee to make a further inspection and report on the present condition of the samples of stone undergoing the weathering test at the Geological Museum, London.

L.C.C. Drainage Bylaws.—The Committee regret that till the London County Council decide that revision of the existent drainage Bylaws be undertaken, no opportunity will arise to make use of the suggestions for essential amendment and simplification therein which were the outcome of the labours of the Sub-Committee, who gave much time and careful consideration to this subject.

Waste Pipes from Lavatory Basins in the Metropolitan Water Board Area.—On the recommendation of the Committee, the Council wrote to the Metropolitan Water Board on the subject of a new requirement which the Board were seeking to enforce in regard to the arrangement of lavatory basin overflows. In the opinion of the Committee this requirement and the permissive alternatives were open to grave objection on more grounds than one, and hope was expressed that for the reasons stated in the Council's letter the requirement would be withdrawn. No reply beyond a formal acknowledgment having come to hand, the Committee requested the Council to press for a reply and to publish their letter to the Board in the R.I.B.A. JOURNAL, as the Committee were of opinion that a continuance of compliance with the requirement by Architects and others, in the absence of the requisite information on which to resist it, would prejudice the prompt withdrawal of the requirement hoped for by the Committee and the Council. The Council have, however, decided not to publish the correspondence pending receipt of the Board's reply, for which they have pressed.

Timber Specification.—The Council have at length approved the report and draft specification

submitted by the Committee last session, and have requested the Committee to take steps for the further necessary discussion of the subject with representatives of the Institute of Builders and the Timber Trades' Federation. The Committee have appointed a Sub-Committee for this purpose.

Researches on Timber.—No information has reached the Committee as to the result of the Council's memorial to His Majesty's Treasury in regard to a grant for the investigation of problems connected with timber. This memorial was sent at the instance of the Committee in the official year 1912-13. At the present time it is of course hopeless to expect any favourable reply from the Treasury.

Joint Committee on Reinforced Concrete.—The Council have reappointed this Joint Committee and have received their reports direct.

L.C.C. (General Powers) Bill, 1915.—The Committee considered the draft of this Bill, of which Part III. (Drainage of Premises) and Part IV. (Buildings on Low-Lying Land) were concerned with building. With the assistance of a Sub-Committee, a report on these parts of the Bill was drawn up and submitted to the Council with a recommendation that the Institute should petition Parliament against the Bill. This recommendation was accepted and, at the request of the Council, the Committee instructed the Institute Solicitors and approved the petition, which was duly lodged. The Committee are glad to learn that as a result of strong opposition Parts III. and IV. of the Bill have been withdrawn.

Metropolitan Water Board Bill, 1915.—The Committee examined the draft Bill, wherein the Water Board sought fresh powers from Parliament, and formed the opinion that no opposition by the Institute was necessary. On a reference from the Council the Committee were able to advise accordingly.

Underground Water in the London Area.—The Committee have decided to collect data as to cases of underground water met with during excavations and building operations in and near London. Information from Architects has been invited, and the Committee hope to be able to record such information in a manner intended to be of future service to Architects for proposed building operations in the area. The value of the record will depend on the extent to which response to the invitation of the Committee is made by members of the Institute.

Dry Rot in Timber.—The Council have accepted a recommendation from the Committee that the Institute leaflets on Dry Rot should be supplemented. The Committee have been, and still are, engaged in collecting information and preparing a report as to the additional matter to be included in the leaflets, and hope to be in a position very shortly to advise the Council further on the subject.

Construction of Belfries and Effect of Vibration on Buildings.—The important work of the Sub-Committee considering these matters has continued, but it has been found necessary, owing to the scope of the reference, to confine the Sub-Committee's attention for the present to the construction of belfries. During the year the Sub-Committee have met on eleven occasions and have examined several belfries during actual bell ringing. They are not yet, however, in a position to report. In addition to the accumulation of much valuable information, bell foundries have been visited and the observations of founders obtained. The members of the Sub-Committee are: Messrs. W. A. Forsyth (Chairman), E. Alex. Young (Vice-Chairman), C. Stanley Peach, E. Stanley Hall, W. R. Davidge, A. R. Powys, F. N. Jackson, A. O. Collard, and G. Leonard Elkington, Hon. Secretary. Mr. E. H. Lewis, M.A., has been co-opted by the Sub-Committee as a Corresponding Member.

Defective Roofing Tiles.—The Sub-Committee dealing with this reference have held three meetings. They are arranging for two whole-day visits to representative tile-making districts to be made by themselves and the Committee during the month of May, and are preparing two or three short Papers on Roofing Tiles and their defects to be read next session. The members of the Sub-Committee are Messrs. E. W. M. Wonnacott (Chairman), Ernest Flint, H. Greville Montgomery (Consulting Member), Alan E. Munby, W. A. Forsyth, H. W. Burrows, and George Hornblower, Hon. Secretary.

R.I.B.A. Library.—The Committee have advised the Librarian in regard to the purchase of certain books on Hospitals and have been asked by the Literature Standing Committee to advise in regard to the Library collection of scientific books. Such assistance in this direction as the Committee can give from time to time will be given readily.

Other Matters.—Amongst other matters which have come within the scope of the Committee's work may be cited the following :

1. Jointless Flooring—Manufacture of Chloride of Magnesium.
2. Wall Finishings in Hospitals.
3. Fire Prevention.
4. Air Pollution.
5. Construction for Localities subject to Earthquakes.

General Policy in Regard to Enquiries.—In view of the nature of some of the enquiries which reach the Committee, they have laid down as a general principle that enquiries which *prima facie* show that the enquirer is deficient in knowledge or experience should not be answered by the Committee. They consider that the proper course for such enquirers is, as in the medical and legal professions, to obtain advice from more expert practitioners and pay for it.

Conclusion.—The Committee desire to place on record their appreciation of the services of those members of the various Sub-Committees who are not members of the parent Committee.

REPORT OF THE AUDITORS FOR 1914.

We have examined the books and checked the accounts with the vouchers for the year 1914. We have also examined the share certificates held by the Institute, and the list of share certificates deposited at the Bank, all of which were found to be perfectly correct.

In regard to the Income and Expenditure Account, it is satisfactory to note that, although during the year 1914 large and unexpected calls have been made upon the funds, the surplus amounts to £2,722 9s. 5d., in comparison with £1,302 1s. 3d. in 1913.

The total expenditure for the year 1913 was £11,567 13s. 3d., whilst that for the year 1914 has been £11,391 12s. 4d., a reduction of about £176.

Comparing the items of ordinary expenditure in 1913 with those of 1914, in the latter year savings have been effected on fuel, salaries ; general printing, stationery, stamps, and petty expenses ; general meetings, medals and prizes, and the cost of producing and issuing the JOURNAL and KALENDAR.

A very satisfactory reduction of the bank overdraft has been effected. In 1913 the amount was £4,846 7s. 1d., and in 1914 £2,707 1s. 10d., a diminution of about £2,139.

The various grants made by the R.I.B.A. in the year 1913 amounted to £534, whilst those in 1914 were more than doubled—viz., £1,148. This great increase is principally due to the special grants made to the War Committee Fund and the Prince of Wales's Fund.

Doubtless owing to the War, the receipts for Examination fees have greatly decreased—viz., from £1,633 16s. 0d. in 1913 to £1,169 14s. 0d. in 1914. This decrease is largely due to the fact that many men who under normal conditions would have entered for the Examinations are now either at the Front or in training, and we believe this reduction of income will, under the present conditions, be received by the members with pleasure rather than regret.

Regarding our new premises, under the heading of "Assets," they are scheduled at £35,622 7s. 2d. This amount represents the actual cost, but we are of opinion that a detailed valuation should now be made and the sum included in the next Balance Sheet.

We find that the books have been kept in a most careful and systematic manner. We think that the thanks of the members are due to the staff for the admirable way in which they have executed their duties.

R. STEPHEN AYLING [F.]

HENRY A. SAUL [A.]

FINANCES.

The Accounts of Ordinary and Trust Funds for 1914, prepared by Messrs. Saffery, Sons & Co., Chartered Accountants, and audited by Messrs. R. Stephen Ayling [F.] and Henry A. Saul [A.], Hon. Auditors, here follow :—

Income and Expenditure Account of Ordinary Funds for the Year ended 31st December 1914.

Dr.		Exclusive of Entrance Fees, Final Examination Fees, and Subscriptions in advance.		Cr.	
EXPENDITURE.		INCOME.			
To ORDINARY EXPENDITURE—		By ORDINARY INCOME—			
Rent	£ 1322 10 0	Subscriptions	£ 3450 12 0	£ 3450 12 0	
Gas and Electric Lighting	145 5 1	823 Fellows at £4 4s.	3450 12 0		
Fuel	36 2 0	1 Ditto on account	3 3 0		
Interest on Mortgage	1503 17 1	1552 Associates at £2 2s.	3259 4 0		
Salaries	40 0 0	1 Ditto on account	1 1 0		
General Printing, Stationery, Stamps, and Petty Expenses	2963 10 4	Ditto Arrears	172 4 0		
General Meetings and Exhibitions	944 6 10	46 Hon. Associates at £2 2s.	96 12 0		
Housekeeping	169 1 0	Ditto Arrears	16 16 0		
Advertisements	344 4 9	1887 Licentiates at £1 1s.	1981 7 0		
Examination Expenses	67 5 10	Ditto Arrears	53 11 0		
General Repairs	353 15 4	Reinstated Members	43 1 0		
Fire Insurance	211 8 7				0102 15 0
Medals and other Prizes	37 15 3	JOURNAL AND KALENDAR—			
Grant to Library	73 1 6	Advertisements	1000 0 0		
Grant to Architects' Benevolent Society	200 0 0	Sales of Journal and other Publications	647 8 1		
Grant to Architectural Association	100 0 0				1647 8 1
Grant to A. A. Sketch Book	25 0 0	Examination Fees—			
Grant to Royal Architectural Museum	21 0 0	Statutory	15 13 0		
Grant to Paris Exhibition (drawings)	100 0 0	Preliminary	432 12 0		
Grant to St. Paul's Fund	105 0 0	Intermediate	368 11 0		
Grant to War Committee	250 0 0	Special and Final (forfeited)	310 16 0		
Grant to Prince of Wales' Fund	105 0 0	Licentiates	44 2 0		
Grant to Architects' Training Corps	50 0 0				1169 14 0
Grant to British School at Rome	71 0 0	Use of Rooms—			
Grant to Sir L. Alma Tadema Memorial	10 10 0	R.I.B.A. Tenants	80 0 0		
Grant to Hunter Memorial	10 10 0	Galleries	374 4 8		
					454 4 8
The JOURNAL—		Dividend of 30s. per share on 1100 Shares, Architectural Union Company (from Liquidator)			1650 0 0
Reporting	74 16 3				
Printing and Binding	1128 16 10				
Illustrations	73 12 7				
Addressing, Postage, and Carriage	527 9 9				
					1864 15 3
The KALENDAR—					
Printing	263 17 5				
Postage and Carriage	60 1 1				
					323 18 6
Contributions to Allied Societies					518 14 9
MISCELLANEOUS EXPENSES—					
Legal and Accountants' Charges	244 15 11				
Presidents of Allied Societies	71 19 8				
Telephone	27 5 6				
Annual Dinner Deficit	101 19 5				
Council Dinner Guests	57 0 9				
Town Planning	30 16 2				
War Committee	88 16 0				
British School at Rome—					
Expenses of Examinations	48 15 5				
Sundries	86 13 7				
					758 11 5
Reserve (7 years) for Fine payable on renewal of Lease					49 0 0
Interest on Overdraft					80 6 6
Surplus for the year carried to Balance Sheet					2722 9 5
					£14114 1 9

SAFFERY, SOXS & Co.,
Chartered Accountants.

Examined with the vouchers and found to be correct. 13th April 1915. { ROBERT STEPHEN ATYLING [F.] }
{ HENRY A. SAUL [A.] } Hon. Auditors.

Dr.		Balance Sheet of Ordinary Funds, 31st December 1914.		Cr.	
LIABILITIES.		ASSETS.			
To Sundry Creditors—		By Premises			
Sundry	£ 1130 0 6	Amount paid to acquire the above, including cost of alterations. (Subject to a Mortgage of £4000 @ 4 per cent.)		35622 7 2	
Mortgage Interest	40 0 0	By Debtors, Rent, Advertisements, &c.			324 8 4
Rent	17 5 0	By Subscriptions in Arrear for 1913	379 1 0		
Reserve for fine payable on renewal of lease	1187 5 6	Ditto 1914	684 12 0		
Bank Overdraft	49 0 0				1063 13 0
Examination Fees anticipatory of election	2707 1 10				
Subscriptions received in advance	151 4 0				
Accumulated Fund—					
Balance as per last Account	131 5 0				
Add Entrance Fees in 1914—					
Fellows	29332 13 9				
Associates	£130 4 0				
Arrears for 1914 (as per contra)	343 7 0				
	473 11 0				
	684 12 0				
	30490 16 9				
Less Arrears for 1913, since received or cancelled	£397 15 0				
Furniture and Fittings bought	31 4 0				
	428 19 0				
	30001 17 9				
Add Surplus of Income and Expenditure Account for 1914	2722 9 5				
					32784 7 2
					£37010 3 6

NOTES:—
(1) A fine of £7 per annum is payable every 14 years in respect of the premises under a Lease from the Corporation of the City of London. Notice of renewal must be given at Michaelmas, 1921, and the fine of £98 paid.

SAFFERY, SOXS & Co.,
Chartered Accountants

Examined with the vouchers and found to be correct. 13th April 1915. { ROBERT STEPHEN ATYLING [F.] }
{ HENRY A. SAUL [A.] } Hon. Auditors.

(2) The Freehold and Leasehold Premises having been taken over from the Liquidator of the Architectural Union Company as from Michaelmas 1914, one quarter's Ground Rent and Interest on Mortgage and a Reserve for the periodical Fine payable to the Corporation have been charged in the above accounts.

REVENUE ACCOUNTS OF TRUST FUNDS

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Revenue Accounts of Trust Funds for the Year ended 31st December 1914.

Dr.	£ s. d.		Cr.	£ s. d.
ASHPITEL PRIZE FUND:—				
To cost of Ashpitel Prize, W. W. Friskin [A.]	10 0 0	By Balance from last Account	79 10 9	
To Balance carried forward	81 0 0	By Dividend on £305 1s. 8d. New South Wales 4 per Cent. Debentures (1922)	11 9 3	
	91 0 0		91 0 0	
ANDERSON AND WEBB FUND:—				
To Balance carried forward	273 8 8	By Balance from last Account	248 14 11	
	273 8 8	By Dividend on £58 6s. New South Wales 4 per Cent. Inscribed Stock (1942)	2 6 6	
		By Dividend on £594 18s. New South Wales 4 per Cent. Debentures (1922)	22 7 3	
			273 8 8	
ARTHUR CATES LEGACY:—				
To Amount paid Prize, J. C. Rogers [A.]	42 0 0	By Balance from last Account	73 5 6	
To Balance carried forward	74 18 5	By Dividends on £1160 4 per Cent. N.E. Railway Preference Stock	43 12 11	
	116 18 5		116 18 5	
DONALDSON TESTIMONIAL FUND:—				
To Cost of Medal	1 7 6	By Balance from last Account	16 14 3	
To amount paid H. N. Fisher	5 5 0	By Dividends on £72 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	2 12 0	
To Balance carried forward	12 13 9		19 6 3	
	19 6 3			
GODWIN BURSARY:—				
To Amounts paid, viz.		By Balance from last Account	75 2 8	
M. S. Briggs [A.]	40 0 0	By Dividends on £1030 Caledonian Railway 4 per Cent. Stock	38 13 11	
W. R. Davidge [A.]	15 0 0		113 16 7	
To Cost of Medal	1 11 6			
To Balance carried forward	57 5 1			
	113 16 7			
GRISSELL LEGACY:—				
To Amount paid P. D. Bennett [A.]	10 10 0	By Balance from last Account	16 19 4	
To Cost of Medal	9 18 9	By Dividends on £20 0s. 8d. "B" Annuity Great Indian Peninsula Railway	13 10 0	
To Balance carried forward	19 1 4		30 9 4	
	30 9 4			
LIBRARY FUND:—				
To Purchase of Books, Binding, &c.	210 6 2	By Balance from last Account	19 19 9	
To Petty Expenses	2 17 11	By Entrance Donations of 2 Hon. Associates	4 4 0	
To Balance carried forward	2 1 8	By Annual Grant from Ordinary Funds	200 0 0	
	215 5 9	By Fines, &c. (Loan Library)	0 2 0	
			215 5 9	
OWEN JONES STUDENTSHIP:—				
To Balance carried forward	262 3 8	By Balance from last Account	153 11 1	
	262 3 8	By Dividends on £2128 Midland Railway 2½ per Cent. Stock	49 19 9	
		By Dividends on £1247 G.W. Railway 5 per Cent. Consolidated Stock	58 12 10	
			262 3 8	
PUGH MEMORIAL FUND:—				
To Deficit from last Account	16 5 8	By Dividends on £1070 L. & N.-W. Railway 4 per Cent. Consolidated Preference Stock	40 7 2	
To Amount paid to W. Paterson [A.]	20 0 0		40 7 2	
To Cost of Medal	1 9 6			
To Balance carried forward	2 12 0			
	40 7 2			
SAXON SNELL REQUEST:—				
To Balance carried forward	169 13 7	By Balance from last Account	146 15 5	
	169 13 7	By Dividends on £689 4s. New Zealand 3½ per Cent. Stock	22 18 2	
			169 13 7	
TITE LEGACY FUND:—				
To Amount paid to L. de Scissons	10 0 0	By Balance from last Account	4 13 1	
To Balance carried forward	21 12 11	By Dividends on £1150 2½ per Cent. Consols	26 19 10	
	31 12 11		31 12 11	
WINIFRED REQUEST:—				
To Amount paid to M. S. Briggs [A.]	25 0 0	By Balance from last Account	151 12 7	
To Balance carried forward	155 10 7	By Dividends on £1024 18s. 8d. Metropolitan Water Board Stock	28 18 0	
	180 10 7		180 10 7	

SAFFERTY, SONS & CO.,
Chartered Accountants.Examined with the vouchers and found to be correct. 13th April 1915. { ROBERT STEPHEN AYLING [F.] } Hon. Auditors.
{ HENRY A. SAUL [A.] }

Balance Sheet of Trust Funds, 31st December 1914.

Dr.	£ s. d.		Cr.	£ s. d.
To ASHPITEL PRIZE FUND:—				
Capital—£205 1s. 8d. New South Wales 4 per Cent.		By Government and other Securities, being total of Trust		
Debentures (1922): Value at 31st December, 1914.....	395 1 8	Funds invested at this date, at valuation	9709 14 0	
Balance at credit of Revenue Account	81 0 0	By Cash at Bank	1199 5 3	
To ANDERSON AND WEBB FUND (Board of Architectural Education):—				
Capital—£594 18s. 4d. New South Wales 4 per Cent.				
Debentures (1922): Value at 31st December, 1914.....	594 18 4			
And £58 6s. New South Wales 4 per Cent. Inscribed				
Stock (1942): Value at 31st December, 1914	56 11 0			
Balance at credit of Revenue Account	273 8 8			
To ARTHUR CATER LEGACY FUND:—				
Capital—£1160 N.E. Railway 4 per Cent. Preference				
Stock: Value at 31st December, 1914	1136 16 0			
Balance at credit of Revenue Account	74 18 5			
To DONATION FUND:—				
Balance in hand	76 3 7			
To DONALDSON TESTIMONIAL FUND:—				
Capital—£72 L. & N.W. Railway 4 per Cent. Consoli-				
dated Preference Stock: Value at 31st December, 1914	70 18 5			
Balance at credit of Revenue Account	12 13 9			
To GODWIN BURSARY FUND:—				
Capital—£1030 Caledonian Railway 4 per Cent. Deben-				
ture Stock: Value at 31st December, 1914	1035 3 0			
Balance at credit of Revenue Account	57 5 1			
To GRISSELL LEGACY FUND:—				
Capital—£20 0s. 8d. "B" Annuity Great Indian Penin-				
sula Railway: Value at 31st December 1914	368 2 3			
Balance at credit of Revenue Account	10 1 4			
To LIBRARY FUND:—				
Balance at credit of this Fund	2 1 8			
To OWEN JONES STUDENTSHIP FUND:—				
Capital—£2128 Midland Railway 2½ per Cent. Debenture				
Stock: Value at 31st December, 1914	1324 13 7			
And £1247 G.W. Railway 5 per Cent. Consolidated				
Guaranteed Stock: Value at 31st December, 1914 ..	1533 16 2			
Balance at credit of Revenue Account	202 3 8			
To PUGIN MEMORIAL FUND:—				
Capital—£1070 L. & N.W. Railway 4 per Cent. Consoli-				
dated Preference Stock: Value at 31st December, 1914	1053 19 0			
Balance at credit of Revenue Account	2 12 0			
To SAXON SNELL BEQUEST:—				
Capital—£698 4s. New Zealand 2½ per Cent. Stock: Value				
at 31st December, 1914	614 8 4			
Balance at credit of Revenue Account	169 13 7			
To TITE LEGACY FUND:—				
Capital—£1150 2½ per Cent. Consols: Value at 31st				
December, 1914	810 15 0			
Balance at credit of Revenue Account	21 12 11			
To WIMPERIS BEQUEST:—				
Capital—£1024 18s. 8d. Metropolitan Water Board 3 per				
Cent. "B" Stock: Value at 31st December, 1914	804 11 3			
Balance at credit of Revenue Account	155 10 7			
	£10908 19 3			£10908 19 3

SAFFERY, SONS & Co.,
Chartered Accountants.

Examined with the vouchers and found to be correct. 13th April 1915.

{ ROBERT STEPHEN AYLING [F.] } Hon. Auditors.
{ HENRY A. SAUL [A.] }

The Council submit an Estimate of Income and Expenditure of Ordinary Funds for the year ending 31st December 1915, exclusive of Entrance and Final Examination Fees:—

Rough Estimate of Income and Expenditure of Ordinary Funds for the Year ending 31st December 1915.

Dr.	£ s. d.		Cr.	£ s. d.
ORDINARY EXPENDITURE.		ORDINARY INCOME.		
Rent, Rates, Taxes, &c.	800 0 0	Subscriptions and Arrears	8000 0 0	
Gas and Electric Lighting	150 0 0	Sale of Publications	550 0 0	
Fuel	50 0 0	Advertisements	1000 0 0	
Salaries	3000 0 0	Examination Fees	700 0 0	
General Printing, Stationery, Stamps, and Petty Expenses	950 0 0	Use of Rooms	80 0 0	
General Meetings and Exhibitions	160 0 0			
Housekeeping	400 0 0			
Advertisements	60 0 0			
Examination Expenses	360 0 0			
General Repairs	150 0 0			
Fire Insurance	40 0 0			
Medals and Prizes	100 0 0			
Grants	1100 0 0			
The JOURNAL	1800 0 0			
The KALENDAR	330 0 0			
Contributions to Allied Societies	520 0 0			
Presidents of Allied Societies	70 0 0			
Legal and Accountants' Charges	150 0 0			
Miscellaneous Expenses	300 0 0			
Interest on Overdraft	100 0 0			
	£10390 0 0	Estimated Deficit	260 0 0	
			£10650 0 0	

Discussion on the Annual Report.

THE PRESIDENT, having formally moved the adoption of the Report, said: I should like, before we begin the discussion, to call the attention of the Meeting to the fact that this is a report submitted by the Council to the General Body for adoption—or otherwise. It is possible that members may make certain objections here and there to the wording. But, unless there are obvious printers' errors or misprints, or anything of that kind, it is not in the power of the meeting to alter the Report; it is the Report of the Council, and you have to accept it, or reject it. It is open, of course, to anyone to ask that any objection he may make may be recorded; and, as far as possible, questions which may be asked on any point will be answered by members who have had to do with those particular points. I will now ask Mr. Woodward to second the motion for the adoption of this Report.

Mr. Wm. Woodward [F.], in seconding the motion, said: On page 1 the obituary this year is a long, and a very sad one. I notice in it the name of Henry Dawson, who was elected a Fellow in 1869, and who is my oldest recollection of a debater within the walls of this Institute. There is also the name of Samuel Douglas Topley, who is the most recent of my recollections of a debater within this building; I was very pleased indeed to read the words of my friend Mr. Guy Dawber when announcing Mr. Topley's death the other evening, and I echo very sincerely what he said, that the Institute has suffered an irreparable loss in Mr. Topley, as I am sure his relatives have suffered an everlasting grief. As regards the statistics of membership, I am happy to find that there is a total increase of 21 members. I should like to reduce that increase by 15, being the Germans, Austrians and Hungarians among our Hon. Corresponding Members. I see that twelve Licentiates have been elected as Fellows. We have always looked forward—and with pleasure—to a large increase in the Fellowship by Licentiates coming forward for election in that class. On page 3 I am sure we shall all have been pleased to notice that more than 1,200 members of the architectural profession are serving in the various branches of the Forces. That is something to be proud of, although we regret the many losses sustained. As to the protest against the destruction of monuments and buildings, I would say that that destruction was not confined to the buildings. There is a reference on page 4 to the assistance given to the War Office and other Government Departments. When attending one of the early Committees connected with the war, I expressed the opinion that if architects or members of any other profession did work for the Office of Works or for the Government they should be paid. I know for a fact that if the Government had employed some of the architects who were out of employment in consequence of the war, this country would have been saved many hundreds of thousands of pounds. I have grounds for saying that, and I hope it is not too late to induce the Government to employ men who know how to build even huts, who know the proper construction of them, and have the ability to see that they are erected in a proper and workmanlike manner. There is a reference on the same page to the legal defence of architects, and I am sorry to find that no substantial movement has been made in regard to this important proposal. I hope that in the future we shall find a substantial sum of money placed at the disposal of this Institute to protect architects from unfair treatment. With regard to the Board of Architectural Education, I would say that their Report exhibits on the face of it an enormous amount of work on the part of the gentlemen who compose this Board. Reading between the lines we can see that the members of the Board have expended a very large amount of time to the benefit of this Institute. On page 5 there is a reference to the payment of Examiners from the Institute funds. I think that payment would be a proper payment, and that the payment of Examiners would lead to a continuity of ideas on the part of Examiners, a thing which is very much desired. I am very glad to see it proposed that the Examiners shall be properly paid. As regards the Final Examination I find that in Subject B there has been an examination on iron and steel construction;

and in a Paper read by Mr. Hills, the District Surveyor for the Strand, he mentions this—and I am referring to it because on the last occasion when I addressed you with regard to the Annual Report I expressed the hope that the Final Examination would not be of such an engineering character as it was in the paper set a few months before—Mr. Hills quotes this: "Tables are given for calculating the working stress on (a) cast iron pillars, and (b) mild steel pillars, and giving the maximum working stresses (other than those due to wind pressure) for various ratios of length to least radius of gyration when the ends are considered as fixed, or one end fixed and one hinged, or both ends hinged." All I can say is that if any of my friends here are able to answer that particular question, I shall be pleased to make their acquaintance. Then we come to the Report of the Art Standing Committee, who refer to "the proposal to demolish the interesting building in Great Queen Street known as Boswell's House." There were two houses in Great Queen Street, the property of the Grand Lodge of Freemasons, and you are aware that there is an Act of Parliament which enables the Office of Works, if it sees fit, to prevent the demolition of such interesting relics as those two houses may have formed. The Office of Works did not step in here, as they did to save that beautiful house No. 75 Dean Street. To my mind, however, except for the front and the staircase, there was no reason to endeavour to save those two houses in Great Queen Street. They have been gutted completely by tradesmen who occupied them. But I am happy to say that the façades of those houses, and the greater part of the staircases, will be deposited in the Geffrye Museum in Kingsland Road, and the façades will be re-erected in Geffrye's Garden. This museum contains some interesting relics of Georgian and other work, and will well repay a visit. On page 9 appear the Library statistics, which are, as usual, quite satisfactory; there is great interest taken by members of the profession in the Library. Now I come to the Report of the Practice Standing Committee. This, to my mind, is one of the most important of the Institute Committees. It has to deal with very practical matters; and I hope that in the future, as in the past, only members will be elected to that Committee who, by their experience and practice, can confer a benefit on their fellow-members in connection with the questions put to them. There is a reference to the appointment by the Local Government Board of a Departmental Committee to deal with subjects on which this Institute might be represented—viz., with regard to the "revision of Metropolitan and Provincial Building Regulations." I do not know why the Local Government Board should concern itself with forming a Committee in regard to the revision of Metropolitan Building Regulations; I could understand it with regard to provincial. I think the Local Government Board should confine itself more to matters within its own province. It is a case of a Government Department endeavouring to interfere with special work of special men in connection with the Building Acts. There is also a reference in the Report to the Handbook on Dilapidations. I find my friend Mr. Perks is about to submit a draft with reference to dilapidations, but I hope this draft will not be submitted; it is a most dangerous thing to dogmatise on this matter. Every question of dilapidations depends upon a special covenant in a lease. The idea of giving information to the younger members of this Institute on that intricate and difficult question of dilapidations should be resisted. Let professional men deal with these matters as they arise. I do trust that Mr. Perks and Mr. Greenop will refrain from submitting this draft. In the Report of the Science Standing Committee there is a note about the "samples of stone undergoing the weathering test at the Geological Museum, London." I presume those tests are not being made in the museum; perhaps the Chairman of the Science Committee will inform us on that point. There is a reference at the bottom of page 12 to the Library; it says the Committee have advised the Librarian in regard to the purchase of certain books on Hospitals, but no indication is given of the nature of the advice. Perhaps the Chairman of the Committee will tell us about that also. On page 13 there is a reference to the Committee's general policy in regard to

inquiries, which I must heartily endorse. The proper course for such inquirers is, as in the medical and legal professions, to obtain advice from more expert practitioners, and pay for it. I trust the Institute Standing Committees will not go too far in advising architects on these matters; let them find out for themselves, and pay for it. The Report of the Auditors I consider a most satisfactory one, especially bearing in mind the strain owing to the war. I think the Institute's financial condition is a subject for great congratulation. Notwithstanding the large calls, and the large response to those calls, we have a surplus of £2,722, as against £1,302 last year. The Bank overdraft which is now £2,707, was last year £4,846. There are two matters in connection with this financial statement which I would like to see eliminated in future. You are aware that there is a mortgage on these premises of £4,000, and you have the figures of the Bank overdraft. I believe that at the present moment it is not to the interest of this Institute to pay off that mortgage; it is more to its interest to maintain a Bank overdraft. But if we succeed to the extent we have succeeded this year, I trust that that mortgage will gradually be paid off, and that in the course of a few years the Bank overdraft will cease. There is only one suggestion in connection with the finances that I have to make, and that is that the Council will, when they can see their way, carry into effect the cloak-room and lavatory improvements which I think they are considering. That, Mr. President, concludes the second portion of my remarks. And before coming to the third, which I consider is of great interest to the members of our profession, permit me to say, as I have said on other occasions, that this Report shows that the Council have considered in every detail the interests of the profession at large. They have had, I am sure, some difficulty in dealing with certain delicate matters, such, for example, as official architecture, which the Council very properly say the present is not the moment to discuss. It also shows that our Staff have done good work in the interests of the Institute; and I am happy to see them all here—Mr. MacAlister, Mr. Tayler, Mr. Dircks, Mr. Northover, Mr. Baker. I trust that the younger members of the Staff will also do such good work that they will be ready in their time to come forward and occupy the higher pedestals. And now I come to the last subject I want to occupy you with to-night. At my age it does not affect me personally, but it does affect the future of the members of our profession. You will have noticed, as I have noticed during the last forty years, that encroachment after encroachment has been made upon the work of the members of our profession. When I was a member of the Council of this Institute I was quite aware when the matter was brought forward that it was one of delicacy. I am referring now, in the first place, to the "Stores," to the various decorative firms throughout the country who take, not only the small work of alterations and additions, but large independent works of mansions in the country. It is, of course, a very difficult matter for the Council to deal with. We have a certain dignity to uphold, and I do not see how we are to interfere; if we did interfere it would seem like importing the spirit of trade-unionism into the Institute. When this question of "official architecture" comes to be discussed I shall make only one observation. In *The Builder* of 23rd April 1915 I find this announcement: "According to the Civil Service estimates, which have just been published, the sum of £4,062,742 will be required during the year 1915-16 for Public Works and Buildings." Now, assuming that 5 per cent. would have been paid in the ordinary way for such work, that is £200,000—and it is for only one department.

Mr. PERKS: On a point of order, I object to this; it is not architecture.

Mr. WOODWARD: Very well, I will not refer to it further. I only call attention to the point.

There is a Committee (continued Mr. WOODWARD) appointed by the Board of Agriculture and Fisheries "to consider and advise the Board on plans, models, specifications, and methods of construction for rural cottages and outbuildings." The Committee consists of Mr. Christopher Turner, Mr. Cecil Harmsworth, M.P., Mr. Raymond Unwin, F.R.I.B.A., and Mr. Lawrence Weaver, Hon. Associate R.I.B.A.; and subsequently Mr. Charles E.

Varndell, A.R.I.B.A., was appointed. Their Report was published a few months ago, and can be purchased for 1s. 6d. I will not go into details, but I should like to call attention to one or two of its leading features which, I think, entitle me to make some comment. The Report embraces 42 pages of introductory matter; remarks on the various plans; recommendations as to the selection of materials; and other matter, which affords all the information and advice that could be required for the erection of cottages without the aid of an architect. In the above there are also included nine pages of closely printed details of a specification, which can be purchased at the price of one penny. This is followed by 53 pages of designs of many varied types of cottages in plans, elevations, and sections, with figured dimensions, cubic contents, and descriptive matter, the whole so detailed that the employment of an architect would not be necessary. I observe that the author of Design No. 24 supplies "full size working drawings of window details" for the sum of 1s. The heading of the Specification says that the works are to be done under the direction and to the satisfaction of the architect or employer's agent. I think you will agree with me that the effect of this document will be to take a very large amount of work out of the hands of provincial architects, because the agents of people in the country who desire to build cottages will simply purchase this document and get there all they want. I think, Sir, that steps should be taken to put an end to that sort of thing. It is unworthy of members of this Institute, and I venture to suggest that it is unprofessional. There is a wedge gradually being driven by which architects will be ousted from their legitimate sphere of action. If this sort of thing is continued, the future of our profession is not one that we can look forward to with any satisfaction. I myself am not personally interested, but I enter my strong protest against any member of the Institute being a party to a publication such as this, which can be purchased for eighteenpence, giving plans and drawings and other information which will enable cottages to be built and the services of an architect to be dispensed with.

There is only one other matter in the Report which calls for mention—namely, that the legal expenses are considerably increased this year. That can perhaps be accounted for by the Chairman of the Finance Committee. On the whole, I consider that the Report represents a success almost unanticipated with regard to this Institute, a success which promises to be increased; and I trust, Mr. President, now that we see you restored to health, which I hope will be continued, that you will in your term of office experience even an increase in the prosperity which is shown by this Report.

Mr. G. A. T. MIDDLETON [d.]: May I make a suggestion? In the Report of the Board of Architectural Education it is stated that certain modifications are about to be introduced into the Examinations. While this is being done, would it not be possible to consider some modifications as to the course of study for the Intermediate? Upon the architectural side, the Testimonies of Study were considerably modified a few years ago, but the constructional sheets were not then dealt with. I think it will be found that what is demanded from the young men now in this respect is considerably out of date, and some change is required to put matters right. Then take the Subject C2 of the Intermediate Examination. I see that it is still expected that candidates should understand the use of the slide-rule. I believe that up to the present there has been no question on the use of the slide-rule. As a matter of fact I do not know what architects have to do with the slide-rule at all; I have not heard of its being employed by an architect. That item might very well be omitted from the Examination. With regard to the Final Examination, Subject A, Design, the principle of alternatives having been applied to the Intermediate in Subject C, could not this principle be applied also to the Final? Could not alternative subjects in Design be set instead of every candidate being compelled to take the one subject? It has sometimes happened that the subject set has been eminently suited for a man with one particular class of experience, but utterly unsuited to a candidate whose experience has been on different lines. Sometimes it has suited a man who has been trained in a Classic office but unsuited to one brought up in a Gothic office. Surely an alternative subject

might be set and a little wider scope given in that way, so that the candidate might not be blocked by the accident of the Paper. I think I understood Mr. Woodward to say with regard to Subject B, which deals with iron and steel construction, that we ought to get rid of the extremely engineering character of the present Paper on stresses. If that could be done, so much the better, for it has been carried a little too far. The engineering Paper 10 or 15 years ago was perhaps too elementary, but of late the tendency has been to the other extreme. If we have now a sound stresses Paper in the Intermediate it probably will be sufficient; and if in future the Final Paper on construction includes iron and steel construction—not necessitating highly technical knowledge of engineering stresses—it will suffice.

Mr. A. F. WATSON [F.]: There is one matter I would like to refer to—viz., the Examination fees. The Preliminary remains the same, but the Intermediate is to be made six guineas instead of three, and the Final six guineas instead of four. At the present time, when many juniors, including assistants, find it difficult even to pay the old fees, we might stretch a point, and for the present at any rate keep the fees at the old figure. Many assistants and others who have to go through these examinations will not get any war bonus, and many will not have their salaries raised either, owing to the dearth of work for architects. If this point could be amended it would be a consideration for the younger members. Mr. Woodward, referring to the report on page 11, said he thought the Local Government Board might intrude in regard to building work in the provinces, but that it was not necessary for them to interfere with Metropolitan work. But if they know anything about the work at all, it is surely their own work in London, they interfere sufficiently already in the provinces, and I hope it will not be suggested that they should take any more leading part there.

Mr. H. HARDWICKE LANGSTON [A.]: On page 4 of the Supplement it is stated that the Committee on Official Architecture has completed its consideration of the matters referred to it, and has presented its final report to the Council. "This Report," it says, "is of such a controversial nature that the present is not a suitable time for its discussion, and the Council have accordingly decided to defer its consideration for six months." May a copy of that Report be seen by members in the Library or elsewhere, although not printed? In a preceding clause there is a reference to professional advertising by architects, and it is stated that the Council have decided to put an advertisement in selected papers from time to time warning the public against professional advertising. The Council's decision is a quite proper one, but I should like to draw attention to an elaborate statement which was printed in the Supplements for 23rd January and 6th February. It has reference to the advertisements in the JOURNAL and KALENDAR, and suggests that members should, in short, "tout"—I use the word without meaning offence—should concern themselves about bringing into the Institute's publications advertisements from firms who make and sell special goods for building purposes. It would have been better if members had not been invited to take such a step. It is unfortunate that our revenue is so largely dependent upon advertisements in the JOURNAL and KALENDAR. That is to be regretted certainly, but I would like to ask if we are not already bound by a contract, and if it is not a fact that however many more advertisements may be added to our publications we can obtain no benefit at all while that contract exists. There may be some information forthcoming for us on that point; but I do object to the suggestion that members should make personal efforts towards getting advertisements for our publications. We ought not to make such a public confession of our weaknesses, that we need to increase our revenue in such a way and from such a source, and especially by asking members to aid in it. I think it opens up a field for reward for having secured advertisements for the JOURNAL. No temptation of that kind should be put in the way of architects. We ought to be restricted simply to making use of the covers or extra leaves of the JOURNAL for the use of contractors if they wish to advertise, but members ought not to be brought into it at all. In the Report of the Practice Standing Committee it is stated that the frequency with which

the President is appealed to for the appointment of arbitrators makes it desirable that stereotyped forms of application and appointment should be employed. And they say: "In view of the increasing number of cases in which arbitration proceedings prove abortive after the appointment of an arbitrator by the President and of the consequent loss occasioned to arbitrators, it has been found advisable to prepare some suggestions for their use." Can no reason be given for that? What suggestions should be made to arbitrators whereby the result of their labours may be satisfactory to those upon whom they sit in adjudication when a dispute is about to be tested or referred to them for opinion? Why is it there should be such a lamentable failure, and why should their opinion not be accepted by the litigants? I think that wants some explanation if the right people had been selected—though I do not suggest they were not. It is a lamentable thing that that method of arriving at a decision and giving fair play between architect and architect, or between builder and builder, or between builder and client, should so definitely have broken down.

Mr. W. H. ATKIN-BERRY [F.]: There is one question I should like to ask about the clause relating to "Schedule of Charges." This is a matter with which I was closely connected in the earlier stages of the consideration of the question some three years ago. I am bound to say I am not fully in sympathy with the result, and there is much in it which I regret. But what is the meaning of the latter part of the clause: "The new scale will be brought into operation by the Council in due course"?

THE PRESIDENT: That was agreed to by the General Body itself. It was not thought advisable to spring upon the public during war time an entirely new schedule of charges, and it was agreed that we should hold our hands for a time, and publish the new Schedule when a suitable opportunity arrives.

Mr. ATKIN-BERRY: But are we to understand that that Schedule will not be backed or supported by any sort of legal authority? Is it merely to be put forward as a condition of things decided by this Institute to be binding upon the profession and binding upon the public? Or will it await an Act of Parliament to enable us to enforce it? You have said that this is not considered an appropriate time for launching the new Schedule. I am sure we shall all agree with that, and I think many of us feel that it was hardly the time to bring the matter to a conclusion while so many members were away in consequence of the War, and also in view of the very apathetic way in which the proposed new Schedule was treated by the profession. There seemed indication from the beginning that there was no real desire for this amendment of the Schedule of Charges.

THE PRESIDENT: I cannot go back on that now.

Mr. ATKIN-BERRY: I quite recognise that, but will there be any authority to enforce them?

THE PRESIDENT: The Schedule will be issued in the same way as the other Schedule was, and it will have the same binding power, no more and no less.

Mr. ATKIN-BERRY: Except the power of tradition and custom.

Mr. HERBERT A. WELCH [A.]: Arising out of what Mr. Watson said just now, the present hardly seems opportune for raising the Examination fees. Would it not be possible to arrange that the payment of the increased fees should not become operative until after the War? In regard to the setting of alternative subjects of Design in the Final Examination, as suggested by Mr. Middleton, I am not convinced that to follow such a course would be for the good of architecture. It would, I fear, have a tendency to produce a limited outlook upon Design by students. They would, I think, tend to concentrate their study on one particular style, and their subsequent work would, I am sure, be cramped, show a narrowness of vision, and later on an incapacity to tackle fresh problems on their merits. It is not well that a student should be led to believe that if he sets out upon his professional career with a good knowledge of either of the recognised "styles" that this will suffice to carry him through; a thorough knowledge of them *all* is essential if his work is to "live" and advance the art of architecture, which has ever been the first consideration of our Insti-

tute. As to the Board of Examiners, my experience enables me to pay them a tribute. A few years ago, when I sat for the Final Examination, the subject set for design was a very delightful one, but to my mind obviously intended to be rendered in the Gothic manner. I did not feel confident that such were the best lines along which to proceed, and I followed my own views. At the Oral the Examiner mentioned in a very kindly and generous way that he had thought I should have treated it in the Gothic manner, and asked my reasons for not having done so, which reasons I was only too happy to have an opportunity of giving, suggesting that I thought the student should be allowed a free hand to work out his own salvation and not be fettered in any way in his rendering of the subject. The Examiner was most patient to hear all that I had to say, and then, to my surprise, he was very generous in his appreciation of my views and my interpretation of those views, so that instead of being "plucked" I actually got through. So long as our Examiners are men with such a broad outlook upon architecture, and so long as they are prepared to leave it open to the student to work out the problem in his own way, and judge his success or non-success accordingly, rather than insist upon the subject being rendered in a particular style, we shall be safe, and such Examiners will be doing the greatest possible service to the forward movement of architecture.

MR. W. R. DAVIDGE, *Associate Member of Council*: I think, Sir, that in the stress of questioning and answering the particular points in which we are interested, there is a danger that we may forget the debt of gratitude that we owe to you, Sir, for having presided over us during the past year—a year which I think is unique in the history of the Institute. We have had many points of danger and of difficulty, but we owe a great debt to you, Sir, for the way in which you have piloted us through those dangers and difficulties. And this year above all years we should like to express thanks to our officials for the way in which the affairs of the Institute have been managed. The financial side is a good index to the whole, and I think it should be a very great source of gratification, and congratulation, to know that the financial affairs of the Institute are so satisfactorily managed. I would like also to emphasise our thanks to the various officers who have done so much—Mr. MacAlister, Mr. Taylor, Mr. Northover, who has done so much for the JOURNAL, and who goes quietly on through storm and stress, and so often hides his own personality; and also to Mr. Dircks, who is so popular with all classes of the Institute membership, as well as the other officers, Mr. Baker and others, in connection with the general work of the Institute. In expressing our thanks we should not forget those who have worked so hard on the sub-committees. I have learned a good deal in the course of this last year, and one of the things that I have learned to admire is the work of those who, week in and week out, attend the meetings of the sub-committees, who very often do the real work of those Committees, and the work of the Institute. They deserve our most hearty thanks. There are many points which we criticise, but I feel personally that criticism is out of place on an occasion like this, at any rate in this special year when we want to unite all our forces to carry the Institute through a most difficult and trying time. But I feel that all members of the Institute, whether they are scattered throughout the Empire or not, should do as much as possible to advance the cause of the Institute. Many of our members have three or four or a dozen assistants, yet in many cases perhaps not even one of these is directly connected with the Institute. It seems a trifling matter, but it is one which has great bearing on the Institute's future success. If every member would do his best to see that the young men working in his office are as far as possible brought into touch with the Institute's affairs it would give them a helping hand at the right moment, and their chief would show that he wished to do all he could for them. It would not only help the young men, but would help to strengthen the cause of the Institute. It is only by steady and consistent effort in this direction that our body can be built up, practically stone by stone, until the Institute embraces the whole of the profession. There are still considerable numbers working in the profession who are outside the Institute, and the only way at present of bringing them in is by this

slow process of building up. It should go forward as a general policy. By building up the Institute in that way we are also building up the profession. The success of the profession and of the Institute are really bound together very strongly, and are allied to the success of the individuals composing the Institute. I feel sure we can best secure the success of the individual by enhancing the success of the Institute as a whole.

MR. MATT. GARBUTT [F.]: May I be permitted a word on the question of the Examinations? Other speakers have made certain criticisms on the new proposals which are embodied in the Council Report. Mr. Woodward made some remarks which directly and indirectly affect the Examinations. He seems to think that the architect, on his surveying side at all events, is born, not made. He seems to think that, probably for that reason, the proposed re-issue of the book on Dilapidations will be quite useless. I think the more difficult the subject the more valuable a few carefully thought-out hints should be, to the beginner at all events; and I know that that little book has been considerably valued by many. Mr. Woodward also referred to the taking over of certain parts of the work of architects by people who are not architects. The best way to defend ourselves against that is to make ourselves efficient in the work we undertake to do. And Mr. Woodward, and after him Mr. Middleton, criticised the new proposals of the Council on the scientific side of the Examinations. I think it is fair to draw attention to the fact that this new syllabus does not go so far as some of the suggestions made in the past. There have been suggestions made which, I think, went much too far in their requirements from architectural students. It has always seemed to me that the architectural student should be acquainted with all the principles of mechanics, but that he need not specialise much. Mr. Middleton referred particularly to the mention of the slide-rule in this syllabus. Personally, I think the slide-rule is likely to be of extremely little use to any practising architect. But it is useful when you have to make many calculations of one sort. If you use the slide-rule only occasionally you are likely to make a wrong reading. It is really a very small criticism to make of this syllabus as a whole; and I think it is a point that we ought to approve. If the architect does not master construction better than he has been doing in the past, we shall lose much of our work, and it will not be the cottage-builder who will take it away, but the man at the other end of the scale.

MR. MAX CLARKE [F.], *Chairman of the Practice Standing Committee*: I do not know whether the officials connected with the Standing Committees, of which I represent one, are supposed to reply to any of the criticisms, but it is evident from Mr. Langston's remark in reference to the paragraph concerning arbitrators, that he has not grasped the question at all. The arbitrator is, in many cases, appointed by the President, and he has to set to work without knowing exactly what he is to do. And when he has done perhaps a considerable amount of work the two parties come to terms, and they say to themselves, "We will not trouble about this arbitrator any more; we will settle the matter between us." And the arbitrator has no redress; he cannot exact a fee from either of them, and he is left out in the cold. The paper, which I suggest Mr. Langston should get at the earliest possible date, is one which simply advises the arbitrator, when he is appointed, to communicate with the parties, and to ask them either to undertake to pay his fees, or to pay some large or small sum down. That is the whole intent of the paragraph in the Report. It is only by putting this sort of statement in the Annual Report that members can get some idea of what is going on. This, of course, will attract some people's attention, though the only thing I should have thought it desirable to do would be to suggest that members should procure the document from the office, then they would see the object of it.

MR. LANGSTON: It would appear from Mr. Max Clarke's remarks that the parties who bring their cases to be heard before the arbitrator are not asked to agree that they will be bound by the decision of the arbitrator. But if they were so bound I think it is clear that they could not run away and make terms behind the back of the arbitrator.

THE PRESIDENT: There was a question asked about the

weathering properties of stone. Perhaps Mr. Farrow will kindly answer that.

Mr. FREDERIC R. FARROW, Chairman of the Science Standing Committee: The Geological Museum started a set of tests of their own a few years ago; and the Science Standing Committee send some of their members every year to see how those tests are going on, and to make notes as to the progress that is being made. Various samples of stone are exhibited on the roof of the Museum, and observations are made by the Museum authorities, and our members go every year and note what has happened since the last visit. These tests will be continued for many years, and it will be a long time before we derive any practical knowledge from them. But as the authorities are endeavouring to get some information for the sake of architects, we think it only right that the Royal Institute should keep cognisant of what is being done.

Mr. MATT. GARBUTT: I should like to supplement what Mr. Farrow has said. These tests were commenced some years ago, when I was Secretary of the Science Standing Committee. At that time the whole thing was done in consultation with the Committee, and I do not think there has been any break of

continuity in the touch between the Committee and the Museum authorities. I think Mr. Woodward implied that the Institute should have a voice in the matter: it will be seen from what I have said that the Institute has been consulted from the very commencement.

The PRESIDENT, in bringing the discussion to a close, thanked Mr. Woodward for his careful criticism of the Report, and Mr. Davidge for his kind reference to the work which he (the President) had endeavoured to do during a very difficult year. Some of the questions raised in the discussion had been answered already; and with regard to Mr. Woodward's remarks as to the Board of Agriculture and Fisheries Report, the matter had been in the minds of the Council for some time. During the past two or three months he had had interviews with various Government Departments, including the Board of Agriculture and Fisheries, on this particular subject. The Council now had the matter in hand, and would take it further. [*The remainder of the President's remarks will be found fully reported in the last number of the JOURNAL, pp. 337-338.*]

The Report having been put to the Meeting was adopted unanimously.

PHILIP WEBB.

WILLIAM MORRIS once said, "Philip Webb is the best man I have ever known." What more need be said now? Their friendship was beautiful—unbroken until the end of Morris's life. Morris knew Webb as a man and as an architect. He was a good judge of both.

My own acquaintance with Philip Webb began about 1881, and I have long learned to reverence and appreciate those qualities which made him the friend of William Morris. During the course of many years in his office it was my good fortune to have daily opportunity to study both the man and the architect. As to the man, I must echo Morris's words; while as to the architect, time has not altered the conviction which soon forced itself upon me when I first studied his work, that of all the architectural genius of the nineteenth century Webb's was the most vital and the most inspiring. The outstanding faculty of his genius which continues to strike me with astonishment was the intuitive kind of knowledge he seemed to have of all kinds of building materials, and the inventive skill he displayed in their use. Upon this faculty he slowly founded a style of design which may be said to have its roots in mediæval tradition, but which in no other way resembles its model. The treatment which he applied to his designs was entirely original. None of his work can be said to be imitative of any style whatever. He chose and modified such features from the architecture of the past as suited his purpose, and combined them with a force which surprised all and offended some who were ruled by the "Elegant" taste of the time. The strongly marked character shown in his early work had this advantage—it compelled attention. Attention soon changed to imitation, and now, it is not too much to say that, whether acknowledged or not, Webb's influence in the realm of domestic architecture has been the ruling one. More than any other, it has been the prime agent in bringing about those changes which the last half-century has produced.

Philip Webb was in his early days a very bold pioneer, and later in life continued to be a man of much independence of thought. He led the way to a direct kind of construction and natural use of materials, in which respect he has had many imitators; but in no case have they succeeded so completely as he did himself. There was no worthy building material which came as a stranger to his mind; instinctively he knew how to treat it just as though he had been apprenticed to working in that particular material all his life. He was like some great craftsman who, being denied the use of tools, was forced to educate others that he might get his work done—a cause of constant suffering to himself.

Born in Oxford in 1831, Philip Webb at the age of 16 was articled to Mr. John Billing, an architect in Reading; at the end of his apprenticeship he entered the office of G. E. Street, then in practice in Oxford, with whom he remained for about five years. Here it was that Webb first met William Morris, who also became a pupil of Street's. The importance of this conjunction was very great for both men, and for the world not less so if it only knew. Morris was like sunshine to Webb, his brilliance invigorated in him all that was romantic and daring. Other luminous personalities soon came under the spell of Morris's attraction—Rossetti, Burne-Jones, Browning, and a host of others equally gifted in various ways—in fact, a most wonderful community of intellect in which the true communistic spirit prevailed, each being welcome to the other's secret if he could but understand it. This was Webb's school, and here he got a fiery education full of prompting, and bright with hope and the excitement of untried experiment. A most fertilising atmosphere it proved to be, and it must be remembered that alongside of this movement there was growing up another one. From it many powerful and enlightened patrons and clients came to the help of these men of art and literature, eager to see the realisation of their ideas, and so a field of action was provided in which much might be done by genius of the kind possessed by Webb.

In 1860 Webb built his first house, for William Morris—the Red House at Upton in Kent. Then followed some shops in Worship Street, London, which are, I believe, still standing. Also the offices at 19 Lincoln's Inn Fields. He was also working in conjunction with Morris in these early days of the firm of Morris & Company, producing designs for furniture, wallpapers, tiles, and many kinds of decorations, an example of which may be seen in the dining-room at South Kensington Museum. The only other works Webb did in London were a house in Marlborough Street for Val Prinsep, one in Palace Green for the Hon. George Howard (afterwards Earl of Carlisle), West House, Glebe Place, Chelsea, and an addition to a house at 25 Young Street, Kensington. Nearly all his other work was connected with country houses, the largest of which was Clouds House, near Salisbury. So far as I know he built only one church—at Brampton in Cumberland, about 1875. His very last piece of architectural design was the completion of the tower of this church, which he did in 1905. In all, he built some 50 or 60 houses during the 40 years of his practice as an architect; and in all of them the same spirit prevails, his latest designs showing the same unerring regard for material with which he began.

Webb took just as much pains and care with the "business part" of his work as he did with the other; his specifications were models of clearness, his accounts with the builders were managed as though he possessed the business faculty only, unencumbered by a genius for design. His intercourse with builders and their men was gracious and pleasant, and he greatly delighted in talking bricks and mortar with an intelligent foreman when he visited the work in progress, all the while taking snuff in great quantities. He got in this way many bits of traditional knowledge, such as the old custom of putting skim milk over new ceilings, and he used this knowledge in his work. His sense of duty to his client sometimes led him even to imperil his life. I have seen him descend a new well 100 feet deep, swinging awkwardly in a bucket, only, I think, in order to satisfy himself that he had done all in his power. This principle led him frequently to refuse work when he felt that he had as much on hand as he could personally attend to; in these cases he often recommended some young architect to the would-be client, and so passed the work on to him.

Webb and Morris were the founders of the "Society for the Protection of Ancient Buildings." It was no merely sentimental feeling for antiquity which led them to this effort; rather it was eminently practical, and it demanded the preservation in place of the so-called restoration of all buildings of historic or artistic value. It took many years of hard work before the public began to realise that their aim was this sensible one, and nothing did more to bring this about than Webb's invention of a process of mending old decayed walls by filling the interior of them with new strong material without disturbing the faces of the walls.

The tower of East Knoyle Church was the first building to be operated upon by this new process in 1893, and it has been in use on scores of old churches ever since.

In 1900 Webb left London and his life's work behind him. He retired to live at Worth in Sussex, where he remained until his death last month. Great is our loss.

GEORGE JACK.

APPROXIMATE LIST AND DATES OF WORKS BY PHILIP WEBB.

- 1860 The "Red House," Upton, near Bexley, Kent, for William Morris.
- 1860 Houses and Shops, Worship Street, London.
- 1860 Offices, 19 Lincoln's Inn Fields.
- 1863 "Arisaig House," Arisaig, N.B.
- 1864 House, No. 1 Holland Park Road, Kensington, for Mr. Val Prinsep.
- 1864 Alterations to "Washington," at Roughton, including farm buildings—all since demolished to make room for present building.
- 1867 Dining-room, South Kensington Museum.
- 1868 No. 1 Palace Green, Kensington, for Mr. Geo. Howard.
- 1868 House at Oakleigh Park, Barnet, for Col. Gillum.
- 1868 "Red Barns," Coatham, Redcar, for Mr. Hugh Bell.
- 1871 Cottage at Hunsden, Herts.
- 1872 Structural repairs, Hunsden Church.
- 1873 "West House," Glebe Place, Chelsea, for Mr. Boyce.
- 1873 House at Hayes Common for Lord Sackville Cecil.
- 1873 House in Isle of Wight for Mr. G. F. Watts.
- 1873 House near Caterham, Surrey, for Sir John Tomes.
- 1873 "Joldwynds," Dorking, Surrey, for Sir Wm. Bowman.
- 1873 "Nether Hall," Pakenham, Surrey.
- 1873 Dining-room, No. 77 Park Street, Oxford Street, for Dr. Dowson.
- 1874 Farm buildings at Pakenham.
- 1875 Church at Brampton, Cumberland, and various works at Naworth Castle, including house for the Estate Agent and the Vicarage at Brampton.
- 1875 "Roughton Grange," Northallerton, including farm buildings, and
- 1876 The School House at Roughton, for Sir Lowthian Bell.
- 1876 Additions to "Red Barns," including stables.
- 1876 Offices at Port Clarence, Middlesbrough, for Messrs. Bell Bros.
- 1876 "Smeaton Manor," Northumberland, for Major Godman.
- 1879 First design for "Clouds House," East Knoyle, Salisbury, for the Hon. Percy Wyndham, afterwards abandoned for a new design.
- 1880 House at Welwyn, Herts, for Mr. H. S. Webb.
- 1881 "Red Barns," addition of Schoolroom wing.
- 1881 to 1886 "Clouds House," East Knoyle. First house burnt down and rebuilt.
- 1885 Gates to drive, Rushmore, Tisbury, Wilts, for Gen. Pitt Rivers.
- 1885 Additions to Tangley Manor, near Guildford. New "offices."
- 1886 "Coneyhurst," Ewhurst, Surrey, for Miss Ewart.
- 1887 No. 25 Young Street, Kensington, for Mr. F. Bowman.
- 1887 Screen wall to garden of house in Kensington Square.
- 1888 Additions to No. 1 Holland Park, for Mr. A. Ionides.
- 1889 "Willinghurst," Cranleigh, Surrey, for Mr. Ramsden.
- 1890 "Clouds House," rebuilding after fire.
- 1890 Offices at Middlesbrough for Messrs. Bell Bros.
- 1890 Picture Gallery at Hove, Brighton, for Mr. C. Ionides.
- 1890 Cottage and Gatehouse at Liphook, for Mrs. Robb.
- 1890 Gallery for Antiquities, 1 Holland Park.
- 1891 Forthampton Court, Tewkesbury, for Mr. J. R. Yorks.
- 1891 Farm buildings and cottages, Tangley Manor.
- 1891 Addition to House in Kensington for Mr. Val Prinsep. R.A.
- 1891 Old cottage altered and adapted, Much Hadham, Essex, for Miss Morris.

- 1891 Addition to "Joldwynds."
- 1892 • Addition to Tangley Manor—the Library, &c.
- 1892 "Standen," East Grinstead, for Mr. J. S. Beale.
- 1896 "Erning House," Newmarket, for Captain E. W. Baird.
- 1896 Cottages at Standen, East Grinstead.
- 1896 Chapel at the Rochester Deaconess Institution, Clapham Common.
- 1898 "Warrens House," Lyndhurst, for Mr. G. Eyre.
- 1898 Addition to Roughton Grange, new servants' hall.
- 1898 Village Hall, Arisaig.
- 1898 House at Puttenham, Surrey, for Miss Cox.
- 1899 Gardener's cottage, "Willinghurst."
- 1902 Cottages at Kelmescott, Lechlade, Gloucestershire.
- 1905 Completion of Tower to Brampton Church.

In addition to the foregoing list there are many works unmentioned, such as early works of decorative design in conjunction with William Morris: designs for furniture, tapestry, metal work in grates, lamps, &c.; designs for memorial stones and bronzes; designs for chimney-pieces, bookcases, &c.; work in connection with old houses, such as Berkeley Castle, Pusey House, Berks, and many others; and also designs for some houses that were never carried out.

REVIEWS.

CATALOGUE OF ARTS AND CRAFTS EXHIBITION, PARIS, 1914.

Arts Décoratifs de Grande Bretagne et d'Irlande: Exposition organisée par le Gouvernement Britannique, Avril-Octobre, 1914. Catalogue. Price 4fr. 50c. [The Stationery Office.]

As a literary statement of the views of a distinguished group of British artists upon the peculiarly national arts and crafts of this country, and as a record of the admirable exhibition held in the Louvre last summer by the express invitation of the French Government, this Catalogue is of double value. It is further of singular and pathetic interest at this moment, for the exhibition, brilliant in itself, brilliantly housed and displayed, was suddenly suppressed by the War, and relegated to the cellars of the Louvre, and one of its chief progenitors and most active sponsors, Commendatore Walter Crane, President of the Arts and Crafts Exhibition Society, has recently been removed by death.

Mr. Crane's contributions to the Introduction of this compilation are amongst his last efforts for the cause of British arts and crafts which he served so zealously and untiringly. The Introduction, the design for the effective poster of the Exhibition, and the able and interesting retrospective article upon the Illustration and Decoration of Books, are by his hand. He has been ably and worthily followed, amongst others, by such distinguished experts as Anning Bell, upon British Sculpture and Mural Decoration, Emery Walker on Printing, Sydney Cockerell on Calligraphy and Modern Illumination, Harry Wilson on the Art of the Jeweller, Christopher Whall on Stained Glass, William Burton on Pottery, and Miss May Morris on Embroidery. These articles are all of permanent historical interest as well as of technical value. They express the contemporary views of the first British experts in the different crafts concerned, and lift this book out of the ephemeral order of such compilations.

The series of photographic illustrations of objects exhibited is well chosen and admirably reproduced.

This Catalogue will retain peculiar historic interest as a symbol of the artistic sympathy of two great nations. To us, of Great Britain and Ireland, it is the mark of a memorable and intensely appreciated compliment; to the French doubtless the sign, in artistry, of that new fraternity whose peaceful import was so soon to be exchanged for the great and loyal fraternity in arms of which it was the immediate forerunner.

The early days of this Exhibition were coincident with the Exhibition of British Architecture, arranged by the R.I.B.A., and held in Paris also by express invitation.

We may hope that, in the future, when peace reigns again, the intensified friendship between the countries, begotten of the War, will bring frequent opportunities of similar fraternal interchange and communion in the arts.

EDWARD WARREN, F.S.A. [F.]

GEOMETRICAL STAIRCASES.

Handrailing for Geometrical Staircases. By W. A. Scott. With 50 illustrations. 8o. Lond. 1915. 2s. net. [Whittaker & Co., 2 White Hart Street, Paternoster Square.]

Assuming that there must be so-called "geometrical" staircases, anyone obliged to draw, set out, or make curved handrails and strings will find that this little illustrated book explains how it is all done, in a very clear and simple fashion. Architects who indulge in such staircases, sometimes with plenty of horrid winders, generally indicate their requirements to a small scale and merely add a full-size sectional drawing of the handrail, leaving the setting-out of subtle wreathings to the skilful staircase-hand. But of course mental gymnastics, to keep the architectural brain fit, may appeal to some of us. For instance, those who enjoy the study of graphic statics, as a relaxation, may be fascinated by problems involved in the oblique, inclined planes and falling moulds of serpentine joinery.

The author commits himself, bravely, to the opinion that geometrical stairs have a more graceful appearance than newel stairs. Perhaps he is right, though some people regard the sinuosity of continuous handrailing as less beautiful than staircases with rails in straight lengths, between newel posts, which happen to have the advantage, according to the author, of being cheaper, though that, surely, all depends on the design.

Incidentally, attention is drawn to a not infrequent inaccuracy of description—that of calling a regular circular staircase a spiral one, when the actual form of the rails and strings follows that of a true helix, like a string coiled round a cylinder. Nevertheless, certain conditions may have led, at some time or other, to the construction of a true spiral staircase. Perhaps that is only of antiquarian interest, as also the question why a particular class

of staircase should ever have been allowed to monopolise the expression "geometrical."

A. O. COLLARD [F.].

MR. GRIGGS' DRAWINGS AND ETCHINGS.

At the Twenty-one Gallery, York Buildings, Adelphi, during the present month, one may for a moment escape in fancy, from noisy streets and newspapers, into the peaceful countryside yet left to us in our own homeland. The little exhibition there of drawings and etchings by Mr. F. L. Griggs makes a definite claim to the notice of architects, both by choice of subjects and by workmanlike treatment of these subjects.

To take the etchings first; these comprise two groups, parts of as yet incomplete sets; the first group being plates of imaginary scenes, wrought-up into thoughtfully devised compositions, deep and strenuous exercises—we might say—in historical perspective; the second a series of plates of architectural subjects actually existent. These two groups will appeal differently to different minds, but all must agree in hoping that the second series may be extended ever so far whilst such subjects remain to be recorded. If in these works we seem to miss the particular quality of lighthearted ease which one is accustomed to associate with the art of etching, in the hands of some masters, we may at any rate here detect the high seriousness which is no less a characteristic of fine etching in other instances; still, to the eye of a mere architect, it does seem to be with pen and pencil that Mr. Griggs best proves his mastery. His drawings are of a quality that speaks to draughtsmen; for, not only does he carefully delineate for us the outward shapes of things, but also, by clean, decisive handling, with rigid elimination of non-essentials, he contrives, in one example after another, to convey to us, as it were, the very heart and goodness of his subject. In support of this contention one may point, for example, to his impressive little drawing, in pencil, of Somersby Church; whilst his water-colour, "The Priory Farm," worthily maintains the tradition of the English School. In these two drawings alone lies proof, were it needed, that not in vain did John Sell Cotman and Tom Girtin live and do their work.

WALTER MILLARD [A.].

CORRESPONDENCE.

Historic Buildings of Belgium.

19 May 1915.

To the Editor, JOURNAL R.I.B.A.—

SIR,—At the present time, when public attention is so much directed to the destruction of historic buildings in Belgium, I wish to bring before your readers the fact that a Committee has been appointed by the Council of the Royal Institute of British Architects to form a collection of records of these. The Council is of opinion that this collection must include all build-

ings of historic interest in Belgium, in view of the uncertain course of future events.

I now appeal to all those who possess photographs, measured drawings, sketches, old prints, plans of towns, illustrated guide-books to individual towns, to present these to the R.I.B.A., where they will be embodied in a branch of the Library, with a special catalogue for reference. The collection when completed will be accessible at the same hours and under the same conditions as the rest of the Library. It is hardly necessary to add that Belgian architects will be particularly welcome to the use of the collection.

The Council is especially anxious to obtain gifts of photographs taken by visitors to the smaller towns of Belgium, such as, by way of example, Nieupoort and Furnes, where there are often churches and houses of great architectural interest which are not illustrated in standard books on the architecture of Belgium.

The Council feels that such a collection brought together in one institution would be of permanent value to all interested in the art of Belgium.

All gifts should be addressed to Mr. Martin Briggs, A.R.I.B.A., Hon. Secretary of the Belgian Architectural Records Sub-Committee, at the Royal Institute of British Architects, 9 Conduit Street, W., by whom they will be acknowledged.—Yours faithfully,

ERNEST NEWTON, *President R.I.B.A.*

Boswell's House, Great Queen Street.

12 Pleydell Avenue, Stamford Brook, W.: 15 May 1915.

To the Editor, JOURNAL R.I.B.A.—

SIR,—The statement occurs in the note on the above house in the issue of the JOURNAL for the 8th May 1915 that "the designer is stated to be John Webb, pupil of Inigo Jones." It would be interesting to know on whose authority John Webb is accredited with this work. Authorities differ, so who is to decide? In Vol. V. of the *L.C.C. Survey of London* the question is ably discussed, and after considering Walpole's reference in *The Anecdotes of Painting in England* as to "the houses in Great Queen Street built by Webb, the scholar of Inigo Jones," and Bagford's ascription to "Inigo Jones," the conclusion is arrived at: "That some architect was commissioned by Newton to design the façade, and possibly the principal internal features, is most probable; but the above evidence is unfortunately not sufficient to enable him to be identified."

It is all very well to assign the work to John Webb when there is no conclusive evidence. Moreover, there is little or no doubt that many of Inigo Jones's designs were carried out by Webb during the time he was with him and also after Inigo Jones's death. In *The Architectural Works of Inigo Jones*, by H. Inigo Triggs and Henry Tanner, jun., the opinion is expressed that the houses referred to in Great Queen Street "were most probably built from the designs of Inigo Jones by his pupil, John Webb."—Yours faithfully,

FRANCIS R. TAYLOR, *Licentiate R.I.B.A.*



9 CONDUIT STREET, LONDON, W., 22nd May 1915.

CHRONICLE.

R.I.B.A. Record of Honour: Eleventh List.

Killed in Action.

HUNTER, GEORGE EDWARD [Associate, elected 1909],
Captain 6th Northumberland Fusiliers (T.).
Killed in action near Saint-Julien 26th April.

Captain G. E. Hunter, born in 1887, the son of Mr. and Mrs. Edward Hunter, of Wentworth, Gosforth, was educated at Aysgarth School and Charterhouse, and served his articles with Messrs. Cuckett & Burns-Dick, of Newcastle-upon-Tyne. He was elected Associate in 1909. Although he had not recently taken an active part in the profession, his interest in architecture was always very keen. In 1904 he received his commission in the Northumberland Fusiliers (Territorials), and in 1908 was gazetted Captain. A brother officer writes: "He led his men with great courage and a total disregard for himself. He was right in front of the enemy's position and was killed by a shell fired at short range." Captain Howard Tomlin Hunter, his younger brother, was killed in the same action.

Died from Wounds.

LEECH, WILLIAM LEONARD BOGHURST [Associate, elected Dec. 1914], Rifleman, 9th County of London (T.). Wounded in the fight for Hill 60, near Ypres. Invalided home and died at the Emergency Hospital, Westcliff, on 14th May.

Mr. W. L. B. Leech served his articles (4 years) with Messrs. Bischoff & Cantley, of Ipswich. He was afterwards assistant for 4 years with Messrs. Heazell & Sons, of Nottingham, during this time attending lectures and classes at Nottingham University and the School of Art. In 1913 he was awarded Hon. Mention for his drawings of Southwell Minster submitted for the R.I.B.A. Measured Drawings Medal. Leaving Nottingham, he entered the office of Messrs. Wratten & Godfrey as assistant, and was engaged for a time on investigation and record work under the Royal Commission on Historical Buildings, working upon Greater London. Mr. Geoffrey Lucas [F.R.S.], one of his proposers for the Associateship, mentions the able help he received from Mr. Leech in competition work.

Gas Poisoned.

HADWEN, NOËL WAUGH [Associate, elected 1910],
Lieut. 3rd Bn. Duke of Wellington's Regt. Gas
poisoned, and invalided home. Making good
recovery.

Wounded.

BARROW, SPENCER ELLWOOD [Associate, elected 1900],
Lieut. King's Own Royal Lancaster Regt. Badly

wounded by shrapnel. Now at No. 7 Stationary
Hospital, Boulogne.

On War Service.

The following is the Eleventh List of Members,
Licentiates, and Students who have joined H.M.
Forces for the period of the War, the total to date
being 41 Fellows, 269 Associates, 115 Licentiates,
2 Hon. Associates, and 145 Students.

HON. ASSOCIATE.

Weaver, Lawrence: Royal Naval Air Service.

ASSOCIATES.

Aitken, A. Danskin: Lowland Divn., R.E.
Dale, T. Lawrence: 2nd Lieut., 9th Bn. York & Lancs. Regt.
Ebbs, E. H. M.: R.N.A.S.
Gaymer, B. P.: R.E.
Goldsmith, G. H.: Capt., 2/5th Lancashire Fusiliers.
Goulder, A. C.: Lieut., Artists' Rifles.
Healing, J. B.: 2nd Lieut., Duke of Bedfordshire's Bn., Bedfordshire Regiment.
Hembrow, James: R.A.M.C.
Hinton, J. G.: 1/5th King's Own Royal Lancaster Regt.
McLean, A. J.: Artists' Rifles.
Mayhew, Alfred E.: R.A.M.C.
Thorp, Norman: Lieut., R.E.
Warry, J. L.: Artists' Rifles.
Watt, J. D. D.: 16th Bn. Royal Scots.

LICENTIATES.

Arthur, J. Maurice: Major, Lowland Divn., R.E.
Barclay, F.: Lieut., 4th Somerset Light Infantry.
Brierley, Reginald B.: 2nd Lieut., 18th County of London.
Brown, William: Regt. Q.M.S., Queen's Own Royal Glasgow Yeomanry.
Creswell, W. T.: Captain, R.E. Services.
Fairer, W. Chapman: 2nd Lieut., R.F.A.
Grout, Philip: Lieut., R.E.
Holtom, E. G.: 2nd Lieut., Lancashire Fusiliers.
Knee, W. H.: R.E.
Lawson, S. H.: 2nd Lieut., R.F.A.
McIntosh, D. G.: Liverpool Merchants' Mobile Hospital, France.
Newell, L. M.: Captain A.S.C.
Palmer, E. H.: Trooper Royal Bucks Hussars.
Payne, J. A.: Co.-Sergt.-Major, Artists' Rifles.
Waller, N. H.: Capt., Gloucester Regt.

STUDENTS.

Alison, Walter: 3/9th Highland Light Infantry.
Byrt, S. H.: O.T.C.
Cullen, Alex.: O.T.C.
Davison, William Rupert: Sergeant, 16th Bn. Middlesex Regt.
James, C. H.: 5th Gloucester Regt.
Pearce, J. M.: Lieut., 12th Bn. Gloucester Regt.
Pheps, L. F.: R.E. (T.).
Rodger, W. A.: 2nd Lieut., 3rd Bn. Welsh Regt.

Mr. W. Fleming Wilkie [F.], described in the Third List as of the Royal Highlanders, is Lieutenant in the 2/4th Black Watch.

Mr. Thos. P. Bausor [A.], late of the 1/1st Herefordshire Regiment, has been gazetted 2nd Lieutenant in the 9th King's Shropshire Light Infantry.

Mr. W. R. Davison (nominated for Associateship R.I.B.A. last Monday), formerly of the O.T.C., has been granted a Second Lieutenancy in the 4th Northumbrian Howitzer Brigade.

The deepest sympathy will be felt with Mr. T. H. Mawson [Hon. A.], whose son, Mr. J. R. Mawson, serving in the Liverpool Pals' Battalion of the King's Own Royal Lancashire Regiment, was killed in action near Ypres on the 23rd April. He was in his 21st year.

Architects' Roll of Honour.

A motion by Mr. E. Guy Dawber, *Hon. Secretary R.I.B.A.*, was unanimously adopted at the meeting of the Council last Monday, that a tablet or board be fixed in a conspicuous position in the premises of the Royal Institute of British Architects containing the names of all architects who are serving with His Majesty's Forces during the War.

The Architects' Volunteer Training Corps.

This Corps, which now forms the 4th Battalion of the Central London Regiment (Volunteers), is officially recognised as the Corps for Architects, Surveyors, Auctioneers, Estate Agents, Builders, and kindred professions and trades. On its formation in the autumn of last year the Council of the Royal Institute contributed £50 towards the preliminary expenses. An appeal has recently been made for further aid in order that the Corps may be placed on a proper footing to render the useful service which it is expected will be required from the Volunteer Corps in the near future. On the recommendation of the Finance Committee the Council have made a further grant of £50. The Corps has made a good start in training reserves, and is continuing and extending its work as an authorised recruiting agency for the Regular Forces.

Special Election to Fellowship.

The Council, in the exercise of the powers conferred on them by Clause 2 of the Supplemental Charter 1909, has elected to the Fellowship of the Royal Institute Mr. FRANK DARLING, of the firm of Messrs. Darling & Pearson, Imperial Bank Building, Toronto. Mr. Darling, it will be remembered, is the Royal Gold Medallist elect for the current year, and it is expected that he will be present in person at the Presentation on 21st June.

The Evolution of the Architectural Competition.

Mr. Lanchester's Paper on "The Evolution of the Architectural Competition" read at the Institute last Monday will be published, with the discussion which ensued, in the next number of the JOURNAL. The speakers included Mr. Alfred W. S. Cross [F.], mover of the vote of thanks; Mr. J. S. Gibson [F.], seconder; Mr. A. E. Richardson [F.], Mr. Arthur J. Davis [F.], Professor Adshead [F.], Mr. H. Heathcote Statham [F.], Mr. H. W. Wills [F.], and the President. The Institute was honoured with the presence at the meeting of His Excellency Paul Hymans, the Belgian Minister in London.

Postponement of R.I.B.A. Prizes and Studentships, 1916.

On the recommendation of the Board of Architectural Education the Council have decided that, owing to the existing conditions, the Competitions for the Prizes and Studentships postponed from last year shall be further postponed until next year, with the exception of the Ashpitel Prize.

The Remaking of Belgium : Exhibition and Conferences at University College.

The Exhibition of Belgian towns, supplemented with examples of town-planning practice in England and other countries, has been got together by a Committee consisting of members of the Town Planning Institute and the Garden Cities Association. Its object is to afford Belgian architects and engineers who are refugees in this country opportunities for study in connection with the planning of their towns. Arrangements have also been made with the University College Committee whereby accommodation is provided in the new buildings of the School of Architecture for the drafting of actual plans and for the study of particular problems. The Exhibition, which was open to the public for three weeks, but which can still be viewed by making application to Professor Adshead, at University College, Gower Street, occupies the large architectural museum on the first floor.

Brussels, Antwerp, and Ghent are shown in a series of plans, views, and photographs, each town occupying a large screen. Bruges, Ypres, Liège, Malines, Namur, Dinant, and Louvain are also fully illustrated, together with many lesser known towns and villages. Perhaps the most striking exhibits are the large-scale plans of Louvain and Liège, which show as a black patch every building which was destroyed by the Germans. These records are amplified by a remarkable series of photographs showing the devastations as they exist to-day. Further interest is added to this section by the Fine Art Society's loan of a selection of Mr. Brangwyn's remarkable etchings of Belgium before the War.

The remaining space is devoted to a series of plans showing the growth of Paris, Turin, etc., and to phases of town-planning practice in England and America. Port Sunlight, Letchworth, and Hampstead are fully illustrated, as also are the Liverpool Garden Suburb and other co-partnership schemes. American playgrounds, examples of the graphic expression of municipal statistics, and the maps which accompany the Birmingham and Ruislip-Northwood schemes under the Act are also among the exhibits.

The Belgium Town Planning Committee is now entering upon another phase of the important work which, under the patronage of the Belgian Government, it has set out to perform. The first series of lectures to Belgian architects have been held during the past fortnight. Lectures have been delivered by Mr. Raymond Unwin [F.], Chief Town Planning Inspector to the Local Government Board; Professor S. D. Adshead [F.], Town Planning Professor at University College; Mr. W. R. Davidge [A.], Chairman, Garden Cities and Town Planning Association; Mr. Patrick Abercrombie, Liverpool University; Mr. H. V. Lanchester [F.]; Mr. G. L. Pepler, Town Planning Inspector; and Mr. Frank Elgood [F.], Chairman of the Ruislip-Northwood Council.

Following these will be courses for engineers, and others for lawyers, doctors, etc. At the same time the

lessons of the Exhibition and of the lecture courses will be applied in Study Circles, under the direction of eminent Belgians in this country. The various districts which have been destroyed will each be considered by a circle of architects, who will receive all information possible, both graphic and documentary, and will be expected to produce a study of the town which is to be placed at the disposal of the Government and the municipal authority when the right time comes. The engineers are considering their own special problems in regard to Town Planning, and in particular the question of roads, arterial communications, railways, and sewerage.

The whole of the administration and direction of this important work is being carried out honorarily, but many of the students must be maintained in London while the courses are in progress. For this purpose the Committee, of which Lord Bryce is President, is appealing for substantial contributions. The work is being carried out with the full approval of the Belgian Government, who are nominating representatives to attend the classes. To carry them on money is urgently needed at once, and contributions should be addressed to Mr. Ewart G. Culpin, the Honorary Secretary, at the School of Architecture, University College, Gower Street, W.C.

Work for Belgian Refugee Craftsmen in England.

Some particulars of the movement set on foot by the Hampshire House Refugee Housing and Workshops Committee, Hammersmith, for providing Belgian refugee craftsmen with employment were given in the *JOURNAL* for the 7th November last. In a report just issued after eight months of work the Committee state that nearly two hundred refugees have passed through their hands, and the total number now dependent on them is forty-one. The "Maison Belge" is only capable of holding sixteen, so that the remainder have to be lodged out. As they were the first Committee to give employment to the refugees they have been consulted by many other Committees and have given evidence before the Royal Commission for providing occupation to Belgian Refugees. In the wood workshop there are now six men working, and some of the furniture made will be exhibited in June. This furniture will be sold to Belgians, and the proceeds used for repatriation. Tools have cost £70, and will be presented to their respective users when they return to Belgium. The bootmaking and women's workshops are also doing good and useful work. The original budget provided for the carrying on of the work till April, but as the time for repatriation still seems remote, and as funds are exhausted, the Committee are asking for further help. The Committee's accounts will ultimately be audited and a copy forwarded to all subscribers. Mr. Charles Spooner [F.] and Mr. Fred Rowntree [F.] are on the Committee, and the last-named, who is Treasurer, will be grateful for subscriptions, which should be sent to him at 11 Hammersmith Terrace, W.

Regent Street Quadrant: Abandonment of Mr. Norman Shaw's Design.

In the House of Commons on Monday, 17th May, Mr. Soames asked whether Mr. Norman Shaw's design for Regent Street Quadrant had been abandoned; whether in that case another design was being prepared, and by whom; and whether it was to be in accordance with the recommendations of the Committee that was appointed to report on the subject.

Sir Harry Verney (Parliamentary Secretary to the Board of Agriculture): Mr. Norman Shaw's design was found to be not well suited to the traders' requirements and has had to be abandoned. Several designs for completing the Quadrant have since been considered, the latest one being by Mr. John Murray, F.R.I.B.A., the architect who has for some years advised the Commissioner of Woods on matters connected with the Crown Estates in London, and who designed the offices now occupied by the Commissioners of Woods. Mr. Murray's design for completing the Quadrant is believed to be in accord with the recommendations of the Committee to which the hon. member refers, except in the matter of the height of the roof, which will be lowered.

The Royal Sanitary Institute: Henry Saxon Snell Prize.

The Henry Saxon Snell Prize in the gift of the Royal Sanitary Institute was founded to encourage improvements in the construction or adaptation of sanitary appliances. It is awarded every three years, the funds being provided by the legacy left by the late Mr. Henry Saxon Snell. The Prize consists of Fifty Guineas and the Silver Medal of the Institute, and is offered in the present year for an Essay on "Suggestions for Improvements in the Sanitary Arrangements and Appliances suitable on Board Ship for (a) Passengers and crew; (b) Cattle and other live stock." Attention has to be given to (1) Ventilation; (2) Heating and Cooling; (3) Sanitary Conveniences, Urinals, etc.; (4) Water Supply; (5) Sleeping Quarters; (6) Store and Food Rooms; (7) The ventilation and regulation of temperature in the space devoted to cattle and other live stock, chiefly horses, cattle, and sheep; construction of stalls; drainage and facilities for removal of dung. Essays consisting of not more than 5,000 words must be delivered on or before 1st November, 1915, addressed to the Secretary of The Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W., from whom particulars of the General Conditions may be obtained.

A Sacred Charge.

At a special general meeting of the Società Leonardo da Vinci held in Florence on the 11th January last, at which were present representatives of all the Italian Academies, Universities, State Libraries, and Institutes of Art and Science, a resolution was unanimously passed of which the following is a translation:—

Affirming that it is the duty of our generation to pre-

serve that patrimony of Art and Culture bequeathed and entrusted to it, and that it is responsible to future generations for this sacred charge (in view of the dispositions of Article 27 of the Hague Regulations, revised in 1907 and accepted by forty-four States):

It is desired that all artistic and historic monuments, galleries and museums, libraries and archives—in short, all seats of learning and collections of art and culture—may be respected by belligerent armies with all possible efficacy both during and after war, as being glorious legacies of the Past held for the benefit of the Future, and the property not of this or that nation, but belonging in common to the whole civilised world.

Official Architecture.

The Manchester City Council have appointed a Committee to enquire into the advantage or otherwise of inviting the services of firms of architects in private practice, thereby enabling the City Architect to devote himself to advisory and supervision work in connection with plans for buildings. The Committee have decided to invite the Manchester Society of Architects to send a deputation to lay its views on architectural matters before the Committee.

OBITUARY.

Wilfred Hoyle [*Associate*, elected 1910] was the second son of Mr. and Mrs. Hoyle, of 24 Park Place, Gravesend, and was born in 1887. He was educated at Cumberland House, Gravesend, and King's College, London, where he won a silver medal in architecture. He was articled to Mr. Geoffrey Lucas, and remained some time with him as an assistant before entering my office (about five years ago), where he remained until the outbreak of war in August last. He then joined No. 1 Company of the Honourable Artillery Company, and after a very short training left with his company for the Front on 18th September. From that time onwards he was chiefly in the trenches until 14th February last, when his health broke down and he was invalided home from a French hospital to Netley on 22nd February, and died there of pneumonia on 15th March. I have known few men of brighter promise than Wilfred Hoyle. In the short time he was permitted to work he showed fine powers of both draughtsmanship and design, as his work at the London Atelier testified. His many friends in the profession feel that they have lost not only an able colleague of unusual promise, but also a good and loyal friend.—C. E. MALLOWS [*F.*].

Thomas Herbert Whittaker [*Associate*, elected 1910], who died at the end of last year at the age of 28, served his articles with Mr. H. T. Sudbury, of Ilkeston, and became an Associate Member of the Nottingham and Derby Society in 1907. He was an indefatigable member of the Designing Club, and took an active part in its competitions and discussions. He won the prize of three guineas, offered by the President of the Nottingham Society, for a design for the Inner Hall of a Mansion in 1909, and the Society's second prize of two guineas for Measured Drawings of Southwell

Minster in 1911. He gave great promise of a useful career until the illness to which he eventually succumbed compelled him to curtail his labours.

MINUTES. XIV.

At the Fourteenth General Meeting (Ordinary) of the Session 1914-15, held Monday, 17th May 1915, at 8 p.m.—Present: Mr. Ernest Newton, A.R.A., *President*, in the Chair; 26 Fellows (including 9 members of the Council), 24 Associates (including 2 members of the Council), 6 Licentiates, and numerous visitors (including His Excellency Paul Hymans, the Belgian Minister),—the Minutes of the Annual General Meeting held 3rd May were taken as read and signed as correct.

The Hon. Secretary announced the decease of the following: Albert Edward Lowes (*Associate*, elected 1914), serving in the Army Service Corps attached to the 6th Northumberland Fusiliers, killed while carrying out his duties in the action near Saint-Julien on 26th April; Captain George Edward Hunter (*Associate*, elected 1909), and his brother Captain Howard Tomlin Hunter, both of the 6th Northumberland Fusiliers, and killed in the above-mentioned action; William Leonard Boghurst Leech (*Associate*, elected 1914), died of wounds received in action at Hill 60.

On the motion of the Hon. Secretary it was resolved that the deep regrets of the Institute for the loss of these members who have given their lives for their country, be entered on the Minutes of the Meeting, and that a message of sympathy and condolence be conveyed to their relatives.

The death through a street accident was announced of William Henry Spaul (*Fellow*, elected 1890), Surveyor for the Diocese of St. Asaph, alderman and ex-mayor of Oswestry, and a vote of sympathy and condolence was passed to his relatives.

The decease was also announced of William Thomas Grewcock (*Associate*, elected 1896) and Daniel Powell and John Joseph Seanor (*Licentiates*).

The Secretary announced that the following gentlemen had been nominated for membership—viz.:—As FELLOWS: Robert Atkinson [*A.* 1910, *Title Prize*man 1905]; Charles Lovett Gill [*A.* 1905, *Ashpitel Prize*man 1904]; Charles William Harris [*A.* 1896], Liverpool; Laurence Hobson [*A.* 1896, *Arthur Cates Prize*man 1897], Liverpool; David Bateman Hutton [*A.* 1906], Glasgow; James John Sydney Naylor [*A.* 1905]; William Campbell Oman [*A.* 1902], Singapore; Frank Peck [*A.* 1898]; Horatio Porter, M.A. Cantab. [*A.* 1891]; Henry Albert Saul [*A.* 1892]. And the following Licentiates, who have passed the Examination qualifying for candidature as Fellows: John Alexander Ogg Allan [*Godwin Burns* 1909, *Inst. Medallist (Essays)* 1910], Aberdeen; Harold Bailly; William Edward Carless (Montreal), Samuel Nathaniel Cooke (Birmingham), John Stuart (Wakefield), James Alfred Swan (Birmingham), Thomas Lumsden Taylor (Glasgow). As ASSOCIATES (20): Leslie Patrick Abercrombie, M.A. Liverpool (Liverpool); Thomas Henry Barrow; Habib Basta, A.M. Inst. C.E., A.M.I. Mech. E.; Naserwanji Mancherji Merwanji Bhowanagree; Edwin Forbes Bothwell (Hong Kong); David Arthur Carmichael (Greenock); William Robert Davison (Morpeth); George Eric Francis [*Ashpitel Prize*man 1914]; Thomas George (Swindon); Blakeley Rinder Gribbon (Leeds); Trevellyn Phillip Jenkins (Swansea); Henry Norman Jepson; Egerton Alwyn Lawer Martyn (Redruth); Edward Meredith (Newbridge-on-Wye); Albert Henry Owen; Stanley George Soper; James Osbert Thompson (Sheffield); John Algernon Edmund Toone (Melbourne); Harris Stephens Triscott; Charles Taylor Whiteley, P.A.S.I. (Bradford).

A Paper on THE EVOLUTION OF THE ARCHITECTURAL COMPETITION was read by Mr. H. V. Lanchester, *Vice-President*, and illustrated by lantern slides.

The Paper having been discussed, on the motion of Mr. A. W. S. Cross, *Vice-President*, seconded by Mr. J. S. Gibson [*F.*], a vote of thanks was passed to Mr. Lanchester by acclamation.

The Meeting terminated at 10 p.m.



THE EVOLUTION OF THE ARCHITECTURAL COMPETITION.

By H. V. LANCHESTER [F.].

Read before the Royal Institute of British Architects, Monday, 17th May 1915.

THE subject of my Paper has such an important bearing on the practice of the art of architecture, that a sketch of the gradual development of the method by which competitions are conducted will possess an interest to many, not so much for its own technicalities as for the possibilities it affords for the advancement of an art which we may take a just pride in practising. Though there be some among us who feel a doubt as to the beneficial influence of the competition on design, I trust that by a closer study of the question, such as I shall advocate this evening, these doubts may be dispelled. It is not, however, my purpose to deal at length with the proposition as to whether, either under existing or under ideal conditions, the best architectural standard would be reached by means of competitions or otherwise, but rather to devote myself to the history of the competition, leading up from the first rudimentary efforts in this line to those of our own day which exhibit the most systematic organisation. This review, supplemented by a few remarks on the special advantages and difficulties the architectural competition presents, will, I imagine, enable each to form his own opinion as to how far the merits of the competitive method advance the art we practise, and how far its demerits are inherent or are merely the result of defects in procedure. It would be idle for me to pretend that my own views are not decided and definite, but it will be my endeavour to let the facts speak for themselves, so that deductions rather than dogmas lead to the conclusions you may arrive at.

I will briefly sketch the competitive activities recorded in architectural annals.

I have found no definite record of an architectural competition in Greece or Rome, but the principle was one so familiar to these peoples that I should be greatly surprised if none such took place. For example, the four sculptors, Leochares, Bryaxes, Scopas, and Praxiteles, were employed to decorate each of the four façades of the Mausoleum, and the public were thus able to compare their work (Vitruvius). The public competitions in other arts are well known to you, but I cannot forbear quoting from the Introduction to Book 7 of Vitruvius an account of one of these :—

"The Attalic kings, stimulated by their great love for philology, having established an excellent public library at Pergamus, Ptolemy, actuated by zeal and great desire for the furtherance of learning, collected with no less care a similar one for the same purpose at Alexandria, about the same period. When by dint of great labour he had completed it, he was not satisfied, unless, like the seed of earth, it was to go on increasing. He therefore instituted games to the Muses and Apollo, and in imitation of those in which wrestlers contended, he decreed rewards and honours to the victorious in literature. These being established, when the time of the games arrived, learned judges were to be selected for the decisions. The king having chosen six, and not readily finding a seventh, applied to those persons who had the care of the library, to ascertain whether they knew anyone fit for the purpose. They told him that there was a certain man named Aristophanes, who with great labour and application was day after day reading through the books in the library.

At the celebration of the games, Aristophanes was summoned and took his seat among those allotted for the judges. The first that contended were the poets, who recited their compositions, and the people unanimously signified to the judges the piece which they preferred. When the judges were required to decide, six of them agreed to award the first prize to him who had most pleased the multitude, and the second prize to some other candidate. The opinion of Aristophanes being required, he observed that the best poet had pleased the people the least. The king and the whole multitude expressed their great indignation at this opinion, but he rose and besought that they would allow him to speak. Silence being obtained, he told them that one only of the competitors was a poet, that the others had recited other men's compositions, and that the judges ought not to decide upon thefts but upon compositions. The people were astonished, and the king in doubt; but Aristophanes relying on his memory, quoted a vast number of books on certain shelves in the library, and comparing them with what had been recited, made the writers confess that they had stolen from them. The king then ordered them to be proceeded against for the theft, and after their condemnation dismissed them with ignominy. Aristophanes, however, was honoured with great rewards, and appointed librarian."

The various morals to be deduced from this story I leave to your imagination.

In Leader Scott's work on the Comacine Guilds, we find that mediæval competitions arose under rather favourable circumstances, as the members of the Guild were naturally accepted as qualified to adjudicate. In the case of Siena Cathedral a council of monks, with masters of the Guild, met to consult on the placing of the columns in the second foundation, and

"Also, on 17th July, 1357, to choose between two designs of columns and a chapel made by Francesco Talenti and Orcagna, when each candidate elected two Masters as arbiters. Francesco Talenti chose Ambrogio Lenzi, a Lombard, and Frate Filippo Riniero of S. Croce. Andrea Orcagna chose Niccolò di Beltramo, also a Lombard, and Francesco di Neri. These could not decide, and Piero di Migliore the goldsmith was taken as umpire, the parties binding themselves to abide by his decision. Giovanni di Lapo Ghino and Francesco Talenti were ordered to make new designs. At length, on 28th July, Orcagna's plan was chosen."

Unfortunately these Guilds did not contrive to keep abreast of the times, and when we come to the competition for the dome of the Cathedral at Florence, we find that Brunellesco, who ultimately proved to be the ablest architect, was outside the brotherhood. Quoting again from Leader Scott, we find that

"The *Opera*, on 19th August, 1418, announced a competition. Any artist whatsoever who had made a model of the projected cupola was to produce it before the end of September, the model accepted to have a prize of 200 gold florins. The date of decision was prolonged to October, and then to December, when a number of models were sent in, the competitors being Magister Giovanni di Ambrogio, C.M. of the *laborerium*, Manno di Benincasa, Matteo di Leonardo, Vito da Pisa, Lorenzo Ghiberti, all *Magistri* of the Masonic Guild; Piero d'Antonio, nicknamed Fannulla (do nothing), Piero di Santa Maria in Monte, masters in wood. There were several models by members of the civic company, the *Arte dei Scarpellini* (stone-cutters); and last, not least, a model in brick and mortar without scaffolding, made by Brunellesco, Donatello, and Nanni di Banco. This last won the prize, but the *Arte dei Maestri* had not evidently faith enough in one outside their ranks to commence at once with the building."

The story of Brunellesco's restiveness at his old rival Ghiberti being associated with him in carrying out a design peculiarly his own, and how he tried to throw scorn on him by locking up his plans and feigning illness, thus leaving Ghiberti to work in the dark, is too well known to need repetition. Brunellesco's strike for independence appears to have given the death-blow to the great Masonic Guild, which, as it became more unwieldy, had been slowly disintegrating. Although he was matriculated into the Guild, it appears to have been against his will, as he ignored his membership, and was imprisoned for not paying his fees. Thus the Guild drops out as a body controlling competitions, and for a long period such decisions as are made come ostensibly from the laymen interested, or, in modern terms, the promoters.

Though numerous designs were prepared for St. Peter's at Rome, and though some of these were still under consideration when another was demanded, the circumstances hardly justify us in regarding them as competitive. We come nearer to the idea of a competition in the case of the Louvre, where at one stage a selection could have been made from a number of designs. Mr. W. H. Ward, in his *Architecture of the Renaissance in France*, has a description of the competition for the completion of the Louvre from which I make the following extracts:

"A competition was held, and the criticisms of architects invited on the designs it produced. Among those who submitted schemes were François Mansart, Jean Marot, and Pierre Cottart. Another competitor was Claude Perrault, one of the most eminent savants of his time, distinguished for his works on mathematics and natural history, who had made a study of architecture, and was introduced to Colbert's notice by his own brother Charles, a confidential clerk in the minister's offices."

"Mansart might have been selected, but his refusal to make a final choice among the alternatives he had submitted at Colbert's request led to his rejection. The criticisms on the remainder proved inconclusive, and intrigues in favour of this or that competitor were rife. The King was too much taken up with Versailles to bestow much interest on the matter. Colbert in this dilemma sent the drawings to Poussin to obtain the opinion of the Roman Academy. They thus came under the eye of Bernini, who condemned them all."

"The Cavaliere Giovanni Lorenzo Bernini (1598-1680), then at the zenith of his fame, was the chief exponent of the barocco school, and was considered the first architectural authority in the world. It was decided to invite him to Paris to give his advice on the spot. Received in France with almost royal honours, such as never fell to the lot of an artist before or since, he soon produced a new scheme which he attributed to divine inspiration (1665). The foundation-stone was laid by the King with great pomp, but the design was not really approved by anyone in France, and it soon became evident that it would not be carried out. Bernini returned home the same year in high dudgeon, but royally paid, leaving the field clear for the Frenchmen. The King was induced to believe that he preferred a fresh design prepared by Claude Perrault; and this with minor alterations was carried out (1667-80), though the work remained under the charge of Le Vau, and later of d'Orbay."

"Such, briefly, was the course of events which led to the erection of the world-famed Colonnade of the Louvre. On the surface it is a series of personal rivalries and petty intrigues; and as so often happens in the world's history, a momentous decision, the outcome of deep underlying causes, is apparently the result of accident. Perrault's design represents French thought of that age with a fidelity which both those of his French rivals, so far as we know them, and that of Bernini, were equally far from attaining. It combines the grandiose spirit of the times, which in Bernini's design was clothed in a barocco dress, with the pure classical forms in which the Frenchmen had embodied their semi-medieval conceptions."

"About the tendencies of Bernini's scheme there is no doubt, and therein lies its chief, if not its only, merit. It proclaimed literally from the house-tops that it was a single building representing a single idea."

"Perrault's design owes much to Bernini—its colossal scale, its giant order, and the subordination of the ground storey into a stylobate, the long, flat line of balustrade and cornice, the simplicity of the mass, the unity of the conception. Neither did he altogether avoid the faults criticised in Bernini. His façade hardly corresponds more closely with what is behind it. But Perrault had a far better grasp of the problem before him: he realised that what he had to provide was a screen to an existing palace, which was to express not so much the actual arrangements of this palace as the majesty of the monarchy it symbolised."

In the eighteenth century we come to a better organised competitive proposal—namely, that for a monument to Louis XV., where the conditions were exceptionally open in their character.

To quote Patte's work published in 1767:

"It was on the 27th June 1748 that the Provost of the Merchants and Aldermen asked his Majesty's permission to raise, in such a position in his capital as he might be pleased to allocate, a testimony to the zeal, the love and the gratitude of his people. M. de Turnehem, then his majesty's director of building, invited the architects of the Academy to prepare schemes for the site of such a monument in the quarter of Paris that appeared to the competitor the most suitable."

"Not only the Royal architects but also several other artists seized the opportunity to show their zeal and their talent. These artists chose the quarters that seemed best to accord with the beauties they had in mind, and, guided solely by their genius, evolved designs that would have done honour to the ablest architects of antiquity."

These schemes, however, involved great disturbance among important industrial and commercial interests, and the King having selected an open area between the Tuileries and the Champs-Élysées, a fresh competition was initiated. A site plan was issued accompanied by the single instruction that the King's statue should be on the line of the broad walk in front of the Tuileries garden. Several of the designs had special advantages, and M. Gabriel was directed to combine these, in order to include them all in the executed work. Thus was determined the design of the Place de Louis XV., now the Place de la Concorde.

In the eighteenth century the number of architects in the British Isles was not a large one, and competitions were usually limited to a few; but in 1768 James Gandon, Thomas Cooley, and Thomas Sandby, with over sixty other competitors, competed for the New Exchange, Dublin, which Cooley

secured. The competition for the East India Company's building in 1799 produced designs from Holland, Jupp, Dance the younger, and Soane. Slightly earlier, Thomas Harrison won the competition for rebuilding the Castle at Chester.

The fourth decade of the nineteenth century witnessed three important competitions. The first was that for the Houses of Parliament. Ninety-seven designs were submitted to four Commissioners, who on 29th February 1836 unanimously selected that by Charles Barry as the best. For St. George's Hall, Liverpool, there were eighty-six competitors, among whom H. L. Elmes was successful, subsequently winning the Assize Courts Competition in 1841. The two buildings were combined and carried out during the succeeding ten years. For further particulars I can refer you to Mr. A. E. Richardson's work on *Monumental Classic Architecture*, from which I have taken this note. The third was that for the Royal Exchange. Robert Smirke, Joseph Gwilt, and Philip Hardwick were the assessors. The first premium was awarded to William Grellier, the second to A. de Chateauneuf and Arthur Mee, and the third to Sydney Smirke. Designs by T. L. Donaldson, Richardson, and David Mocatta were commended, but were considered to exceed the stipulated cost of £150,000. As you know, none of these designs was carried out.

On the 30th September 1856, the Commissioners of Her Majesty's Works and Public Buildings gave notice that they were prepared to receive three designs from architects of all countries—the first to comprise a scheme for the concentration of the principal Government offices on a site lying between Whitehall and the New Palace at Westminster; the other two, designs for buildings which it was determined to erect forthwith as parts of such scheme. One of these was to be a Foreign Office, the other a War Office. The paper of instructions to architects, 1628 copies of which were issued, gave the sizes of all, or most of, the rooms required.

The judges appointed to consider these designs were the Duke of Buccleuch (who was prevented from acting), Earl Stanhope, Viscount Eversley, Mr. William Stirling, M.P., Mr. I. K. Brunel (civil engineer), and Mr. William Burn (architect). The prizes to be awarded were three for the block plan, amounting together to £800; seven, amounting to £1,900, for the Foreign Office designs; and seven, amounting to the same sum, for the War Office designs. The judges awarded the prizes, the premiums were paid, but none of the premiated designs (which remained the property of the Office of Works) was executed.

The obvious defect in the inception of this group of competitions was the simultaneous issue of programmes for a general scheme, and for two buildings that would form part of this. We can hardly be surprised that it ended in a muddle, and left an impression adverse to the competition system. Even in 1880, when Mr. Thomas Porter read a Paper here on the subject, he referred at length to this competition in support of his objections to competitions generally, and at this time a large number of members of our Institute seem to have been in agreement with him.

In 1864 a competition was held for Museum Buildings on the site now occupied by the Natural History Museum. It was assessed by a jury composed of

Lord Elcho.	Messrs. Tite.	Fergusson.
	David Roberts.	Pennethorne.

Captain Fowke gained the first premium, Professor Kerr the second, and Mr. Cuthbert Brodrick the third. Complaints were made as to the drafting of the conditions, which divided the site into two equal halves, and left it very vague as to how far the western half could be used for the accommodation scheduled. This division was obviously unnecessary, and some of the designs, including that of Captain Fowke, ignored it. Those which did not were thus placed at a disadvantage.

The competition for the Law Courts in 1866 and 1867 was conducted by a Commission, with whose concurrence the following were appointed as judges:

Chief Justice Cockburn.	W. E. Gladstone.
Sir Roundell Palmer.	W. Stirling (Maxwell).
W. Cowper, First Commissioner of Works.	

In response to an application from the competitors, two professional men—John Shaw and George Pownall—were added. The judges took into consultation every interested party they could call to mind, asking for verdicts on the plans from each special point of view. As may be imagined, though the designs submitted were only ten in number, the affair got into a desperate tangle. As an example, a report on ninety-nine various points of detail based on the views of heads of departments and other authorities shows that every competitor scores somewhere. Edward Barry is an easy first, and G. E. Street near the bottom of the list. This might in itself be regarded as a sufficient proof of the futility of this method of analysis, but if a further one be needed an inspection of the mass of reports and investigations resulting, will more than suffice.

It is probable that there was never a more conscientious and painstaking jury, but the value of their work was neutralised by an almost complete ignorance of the technique of design. The professional members were evidently overweighted by the ideas of their distinguished *confrères*, and the ultimate results were so inconclusive and confused that everyone concerned must have been relieved when the great beauties of detail in Street's design were made clear, and a justification was found for awarding him the work.

The competition for the Paris Opera House took place in 1860 under the auspices of a jury composed as follows :

Count Walewski, <i>President</i> .		
MM. Caristie	MM. Le Bas	MM. Questel
Duban	Le Sueur	Lenormand
De Gisors	Lefuel	Constant Dufeux
Gilbert	De Cardaillac	Hittorff, <i>rapporteur</i> .

Five prizes were awarded : First, Jinnain ; second, Crepinet and Botrel ; third, Garnaud ; 4th, Duc ; and 5th, Garnier. No design was considered quite satisfactory, and a second competition between the premiated competitors was advised. As the result of this M. Garnier was in 1861 commissioned to carry out the building.

In 1882 an open competition for the construction of the Sorbonne was held. The jury consisted of

3	members representing the University of Public Instruction.
"	" " " " Municipal Council.
"	" " " " Prefecture of the Seine.
"	" " " " Professors of the Faculties.
6	" " " " elected by the competitors.

The site was an extensive one, bounded by streets on all sides, but near the centre of the west side stood the church, and adjoining it a courtyard, to which the following references were made in the programme : " The church, the character of which is left to the appreciation of the competitors, should be preserved." " It is desired that competitors should also preserve as far as possible the buildings surrounding the court, or at least, not materially alter the size and general appearance of the court."

M. H. P. Nénot won this competition with a brilliant design which I wish I could spare time to discuss in detail, but for those interested I may state that in the Library they will find both the original conditions of the competition and a monograph of the completed work.

The competition for the two palaces of the 1900 Exhibition at Paris took place in 1896. The jury numbered no fewer than 47 members. Five premiums were awarded in each case. Owing to the amount of work to be done in a short time the Grand Palais was entrusted to the architects placed first, second, and third, with M. Girault, who was placed fourth, as architect-in-chief. M. Girault also secured first place and carried out the Petit Palais. It is interesting to note that little more than two months were allowed for the preparation of these designs, and that the jury arrived at its decision in a fortnight, despite the fact that some two hundred designs were submitted. Only a clear appreciation of the right method could enable such a large jury to arrive at a good decision in so short a time.

I could, of course, give you similar brief summaries of many other important competitions, but it will be of more value to pass on to the investigations that have been made as to the methods which should govern procedure in such cases.

One of the earliest undertakings of the Royal Institute of British Architects was the appointment of a committee to consider public competitions. Their report is well worth perusal, but I can only now give you a few extracts as showing the point reached at the date of the report, 24th January 1839. In view of the close approximation of this date to that of the creation of Pecksniff perhaps the most amusing paragraph is one running as follows :

" A much more serious train of evils is entailed upon the public and the profession by the facility with which the system lends itself to collusion, many instances of which have been amply proved to your Committee, but to which they think it inexpedient more fully to refer. . . ."

The rest of the paragraph consists of a decorative pattern in asterisks. There are other paragraphs that bear more seriously on the problems of the present day. One runs as follows :

" The arguments advanced in favour of competition are sufficiently forcible. Emulation is said to be the soul of excellence in the arts and sciences—the recognised talents of the elder professor are supposed to be maintained in activity and progressive improvement, and his employers to be protected from the routine manner which security in public patronage and private practice are too apt to produce : while the opportunity is afforded to the young aspirant to take that place in public estimation to which his talents may entitle him."

Again, we find :

" But whatever the conditions may be, they ought to be clear and explicit, that the competitor may know precisely and unequivocally upon what he has to rely. Whenever it may be expedient to lay down definite instructions, they ought to be strictly adhered to, when judgment is to be founded upon them, and every design rejected which shall be found not to conform to them.

" In framing instructions care should be taken to distinguish accurately between the objects to be attained, and the means of attaining them. The former cannot be too accurately ascertained, or too explicitly described ; but the latter should be left as much as possible to the architect, for otherwise a proper scope will not be afforded for the exercise of a variety of suggestions, and one great end of competition will be frustrated. If however there should be a decided bias in favour of any particular style or mode of composition, it ought to be ascertained and stated in the instructions."

and in another paragraph :

" The formation of the programme upon which competitors are required to frame their designs becomes therefore the first essential point for consideration, and a deficiency on this point is perhaps the most general evil in the present system. The precise objects to be attained, the most desirable means of attaining them, the circumstances that must control the plan with regard to the site and other localities, the sum of money to be expended, and many other particulars in which every case of competition brings its own, are seldom ascertained and settled so as to lay the groundwork of well-defined instructions upon which competitors may proceed. When the decision is to be made, the judges discover for the first time that they have been ignorant of their own intentions ; their loose and ill-digested instructions are abandoned altogether, and the architect, who has acted with the greatest good faith in adhering to them, is the first to be deprived of his reward. In another view of the case, an architect, who may have suggested a design not reconcilable with the crude, undigested, and perhaps contradictory preconceptions cast into the programme, may virtually exclude himself from the competition, and his employers from the adoption of his ideas."

In a pamphlet written in 1861 the late M. César Daly deals with Competitions for Public Monuments. The term " monument " of course has a wider significance with the French than with us, and includes all important public buildings. M. Daly takes the view that the competition is vital to architectural progress, and emphasises the following conclusion :

" We require the competition as indispensable for ascertaining periodically and definitely the direction of architectural ideas."

He regards the nomination of the jury (the jury system is not questioned) as the greatest technical difficulty in a competition, on account of the demand that all schools of thought should be represented, and the difficulty that these have in finding a common ground on which a logical decision may be based.

After canvassing the various interests that should be represented on the jury for an important public building, he comes to the conclusion that it should number thirteen, appointed as follows :

L'Institut	} to nominate jointly	...	...	...	...	...	...	...	2
L'Ecole des Beaux-Arts		...	...	...	...	...	...	...
Le Conseil des Bâtimens Civils		...	...	...	...	...	...	...
Le Comité des Monuments Historiques	...	...	...	...	...	...	...	...	1
La Société Centrale des Architectes	...	...	...	...	...	...	...	...	2
L'Administration	Administrators	...	...	...	...	...	...	...	2
	Laymen	...	...	...	...	...	...	...	2
The Competitors	...	...	...	...	...	...	...	...	4
									13

He supplements this by a note that some buildings cannot be thoroughly understood without the advice of a technical expert familiar with their uses, but in a jury of the size suggested he naturally sees no difficulty in including one so qualified, either with or without a vote.

M. Daly goes at some length into the methods which should be taken by the jury to reach a decision, but in regard to these I can only refer you to his work, which is in the R.I.B.A. Library. He continues with the modifications necessary in forming the juries in provincial centres, suggesting one partly local and partly national, and at the end advocates the competition as of great importance in encouraging an active interest in architecture among the general public. He feels that were full advantage taken of the opportunities it offers in this direction, architecture might once more take the place it held in the sixteenth century as an art generally understood and widely appreciated.

In 1908 the R.I.B.A. appointed a Special Committee on the Jury System of Assessing Competitions, which reported on the 10th November 1908 as follows :—

" 1. That in competitions for works, estimated to cost £100,000 or over, the jury system be adopted, subject to the following conditions :—

(a) That such jury shall consist of three architects of experience and ability :

(b) The Chairman of such jury shall be nominated by the President, and the other members by the Competitions Committee.

" 2. That in competitions for works estimated to cost between £30,000 and £100,000 there shall be one assessor and two assistants, subject to the following conditions :—

(a) That the assessor shall be nominated by the President, and shall be responsible for and make the award.

(b) That the assistants shall be nominated by the Competitions Committee, and their duties shall be advisory only.

" 3. That in competitions for works of less value than the above the present system of assessing shall continue.

" 4. That the scale of fees for assessing competitions at present set out by the R.I.B.A. be adhered to.

" It is suggested that the full fees be divided in equal shares between the three assessors after deduction of 30 guineas which the Chairman should receive.

" A similar division should be made in the case of the assessor and two assistants.

" 5. That the above Resolutions should be regarded as framed for the guidance of the President, who shall have discretion to vary their application as circumstances in particular cases may require.

" 6. That, subject to the approval of the Council and the sanction of a General Meeting, the foregoing suggestions be incorporated in an official R.I.B.A. Paper headed ' Regulations as to Assessing Competitions,' with sub-heading as follows :—' Subject to special circumstances, which in the judgment of the President may justify their variation, the following rules should be adopted with regard to the assessing of Competitions.'

" 7. That the Competitions Committee shall prepare a list of Assessors for the assistance of the President. Such list to be revised from time to time, at least annually."

A Minority Report in the following terms was appended :—

" The undersigned members of the Competitions Committee, while cordially supporting the recommendations of the Committee, feel impelled to add that it is their view that the present dissatisfaction is due, less to the existing methods of assessing, than to the lack of any defined and recognised standard as to the qualities that should distinguish a fine building, and that in default of such a standard no system of assessing, however perfect in itself, can do more than mitigate the evil.

"They consider therefore that the best efforts of the R.I.B.A. should be directed towards promoting a unity of aim in regard to architectural expression. This, however, does not appear to be a question on which any immediate practical recommendation is possible, being a matter of slow growth, the outcome of a better system of education. In the meantime the absence of such unity must affect the method of assessing, and the divergence of aim and difference of opinion among architects make some application of the jury system more than ever advisable.

"They believe that a jury such as is recommended by the whole Committee for large competitions might eventually be adopted for all, provided some means of remuneration could be devised that would be generally considered reasonable. It may be pointed out that this difficulty would disappear if the view (now held by many) becomes general—viz., that the office of Assessor is one of distinction rather than profit, and that architects should not allow the question of remuneration to outweigh the interests of the profession as a whole, and should be prepared to act in an honorary capacity if these interests demand it.

"In such a case, fees on the established scale might be made payable to the R.I.B.A., who would call upon its members to act as assessors for such remuneration as the competitions fund might admit."

From these sketch outlines of the history of architectural competitions it will be clear to you that knowledge has usually been very much in advance of practice. Two reasons may be adduced for this. The first is the lack of a systematic training in the profession as to what the essentials of architecture are. With the greatest artists these essentials are comprehended by intuition, and it would be unfair to expect their formulation. But in an art such as ours it is necessary to the formation of a proper judgment that they should be recognised and formulated, and this is the work for those who have the capacity to do it.

Training in architecture, in this country at any rate, has always been rather haphazard and empirical. This was not so serious when only those who had the strongest possible natural bent towards it took up the profession, but when the doors were more widely opened, the educational methods should have been more definitely organised than has been the case, and the logical basis on which our art now rests made the foundation of its study. Had this been done the professional handling of competitions would have been a much easier matter and the results much more satisfactory.

The second reason why our practice does not reach our standard of knowledge lies in the necessity for compromise in dealing with promoters, who often only partially understand the real purposes of a competition, and even when they do, are technically inexperienced in the methods best suited to achieve these.

Now I wish to be quite fair to promoters, and I must say that, when recommendations are put lucidly to them from a clear, logical standpoint, it is my belief that in most cases they would accept advice so supported. The responsibility for seeing that they receive this rests with the architects, and more important competitions have fallen short of the standard they might have reached by our own default than by reason of any intentional malpractice on the part of promoters.

I shall be able to deal with these points more clearly by taking the three parties to a competition in turn, and endeavouring to define the functions of each, in relation to the methods by which, in my view, they can best discharge their respective obligations.

These three parties are :—

(1) The promoters. (2) The assessors or jury. (3) The competitors.

The promoters may or may not schedule their requirements before inviting professional aid, but this is almost the full extent of what can be profitably undertaken without consultation with the professional advisers who are to conduct the competition. It is therefore more convenient to consider the functions of promoters and assessors together. We can realise more clearly the relationship between them if we grasp the fact that it is in every respect similar to that between client and architect during the earlier stages of any projected building work. Just as the architect gives advice on the suitability of a site, adequacy of cost, accommodation needed, and all other matters that are not predetermined by force of circumstances, so those that adjudicate in a competition should advise the promoters. The fact that a competition is to be held in no way justifies the abandonment of these preliminary consultations.

No reasonable man in employing an architect fails to consider his advice, even if he does not always take it, from the very beginning of the undertaking, and promoters ought not to deprive themselves of this, even though the ultimate architect has yet to be selected. The idea that everything must be in shape before the assessor or assessors is appointed is utterly wrong, and has been responsible for the comparative failure of many a competition.

On the architect's side this responsibility has not received much more definite recognition than with the promoters. Assessors have often failed to realise that they ought to give the same meticulous consideration to the various aspects of the proposition as they would in the case of a building they were invited to carry out themselves. It is their duty to see that the interests of the promoters suffer in no way through the successful competitor not having been in personal touch with them from the beginning, and assessors can best realise this requirement by regarding themselves as representing the unknown competitor who will ultimately take up and continue their work.

Continuity from start to finish, such as we find in non-competitive work, is the great need in competition practice. At present there is a tendency to cut it up into three distinct stages, greatly to the detriment of the result. The first stage before the appointment of the assessor or jury, the second during their appointment, and the third after the selection of the design.

To put competitive practice on a sound basis, the breaks between these stages should be bridged over, and I venture to suggest a procedure by means of which this may be achieved. I do not say that there may not be better ways: the one I put forward is merely a suggestion as to the type of procedure that might be appropriate.

Let us assume that some public body is promoting a competition and has appointed a building committee. After some preliminary discussion they would ask for the appointment of an architectural adviser and depute two well-qualified members to confer with him, possibly the chairman and city engineer, or chairman and medical officer, according to the class of building. These three would draw up the programme. Before issuing this, two other independent architects would be added to form a jury of five, and on the programme having been agreed by them, it would be issued to competitors. The usual stages of questions, replies, and receipt of designs having been passed through under the supervision of this jury, its members would jointly make their award, dealing very fully with all the considerations necessary to inform the successful competitor as to any fresh aspect that has occurred to them during the adjudication. Their award might be in two parts, one for publication, and the other more in the nature of a confidential communication to the selected architect in order to make him conversant with problems and difficulties that may affect the further development of his design.

I do not think I need say more on the promoters' share in a competition, and will now turn my attention to the assessors.

I have often heard it said that a good architect is necessarily a good assessor, but to my mind this is not the case. The expression of personality within the confines of architectural technique is the measure of artistic quality, but the less imaginative man with a better training in technique may be superior as a judge to the greater artist who is perhaps unable to analyse the operations of his own mind.

Apropos of this, the following remarks by Richard Wagner are interesting:—

"How," wrote Wagner in 1856, "can an artist expect that what he has felt intuitively should be perfectly realised by others, seeing that he himself feels in the presence of his work, if it is true art, that he is confronted by a riddle, about which he, too, might have illusions, just as another might?"

"I must confess," he further writes, "to having arrived at a clear understanding of my own works of art through the help of another, who has provided me with the reasoned conceptions corresponding to my intuitive principles."

Now the same intuition that enables an architect devoid of the analytical faculty to produce a brilliant design may empower him to select the ablest one submitted in a competition. That is not the weak spot in his equipment as an assessor. This will be discovered in the earlier stages, such as discussions with the promoters and the preparation of the programme. To place the issues properly

before a clear-headed business or professional man whose experience is outside the technique of art demands a faculty of logical exposition and an experience of the difficulties involved which are not essential concomitants of imaginative force. Of course "the legal and logical mind" is useless without artistic ability, but artistic ability is equally useless in this case if its methods are intuitive.

You will notice that in my suggestion for the conduct of a competition I have introduced one of the architects a stage earlier than his two professional brethren. I have done this in order to take advantage of employing one, specially qualified by his attitude of mind and his experience, to thrash out with laymen those points of detail and method that are so often misunderstood. He is thus "the fore-runner" who paves the way for his association on the jury with one or more whose artistic qualifications may perhaps rank higher, but whose limitations in other respects might preclude their being entrusted with the conduct of a competition.

As a general rule, experience as a competitor is almost essential as a qualification for the single assessor, but in the case of a jury this experience may be dispensed with in some of its members if it is in other respects advantageous to have a wider field for selection.

To use the phrase quoted from César Daly, "The direction of architectural ideas" is subject to gradual change, and the pioneers of one generation become the exponents of the academic school in the next. In order, therefore, that vital fluctuations in our art shall receive due appreciation it is desirable that the adjudication of competitive designs shall not be entirely in the hands of the older and more experienced men, whose sympathies are liable to incline towards the earlier as against the newer methods. At the same time experience and mature judgment are invaluable, so that one of the chief recommendations of the jury system is the facility it affords for securing both the experience of the elder and the fresher point of view of the younger men.

Finally, we come to the competitor, who, when he has decided to compete, sets down to master the programme, or conditions as the document is more usually called. Actually the conditions include the programme, which is the part essential to the preparation of the design. If the programme is well drawn up it should at once give the competitor a good general impression as to what the promoters have in their mind; if it is not, the competitor, by much reading and re-reading, will gradually obtain, from accidents of phrasing here and there, some idea of the points to which importance is attached. With a good programme no further questions should be needed, but with a bad one the competitor can help to patch it up by means of questions on salient points.

From the competitor's point of view the best programme is one that states clearly what is wanted but makes no attempt to indicate how these wants are to be provided for. As a rule the allocation of the relative positions for the accommodation asked for is a mistake, tending to hamper freedom in the conception of the design. If special requirements have to be met, it is far better that these should be thoroughly explained than an attempt made to anticipate the competitor's work by specifying some definite arrangement.

In passing, I might refer to the value of a brief introductory note consisting of two or three stimulating phrases intended to place the idea of the building desired vividly before the competitor.

Many of the Prix de Rome programmes are excellent in this respect, and I will quote from two or three at random:—

1884. A THERMAL ESTABLISHMENT.

"This Establishment, situated in a deep valley of the Pyrenees near an important seaside town, should be arranged in a manner recalling that employed by the Romans for the Thermes erected by them in conquered provinces.

"One must, however, take into account the changes that the period, the manners and customs, or the needs of the climate introduce into this type of establishment."

1888. HOUSES OF PARLIAMENT.

"Legislative power is exercised simultaneously by the Senate and the Chamber of Deputies, which are sometimes united in Congress, especially when the election of the President takes place or for the revision of constitutional laws.

"The proposed building is to accommodate both Chambers, the general arrangement will be similar for both, the

sole differences being those due to the number of members belonging to each—namely, 350 in the case of the Senate, and 550 in that of the Chamber of Deputies. The building would thus be divided into two main blocks, each forming a complete whole, grouped up with the Congress Hall and its adjuncts."

1891. AN IMPORTANT RAILWAY STATION, WITH ADMINISTRATIVE OFFICES AND AN HOTEL.

"This extensive group is placed around a public square, gaining all its monumental effect from the following arrangement:—

"The Station is a terminus and is presumed to be at a height sufficient to admit of access to the hotel on one side and the offices on the other without obstructing the routes for the vehicles of those arriving and departing.

"These routes are on each side of the station parallel to the lines. On the departure side there should be large vestibules entered under glazed porches, offices for tickets and registration of luggage, cloak rooms, etc., waiting rooms, and offices for the staff. On the arrival side an extensive shelter for vehicles, vestibules, halls for distribution of luggage, Customs examination, etc., etc."

There is much more, all helping towards a visualisation of the business of a great terminus.

To return to our competitor: having mastered the programme to the best of his ability, he then turns his mind to its solution. In order to do this he must have formed a conception as to what the dominating factors of the problem are. These are very varied according to the class of the building. In one case aspect may be the most important consideration, in another the relative value of the groups of accommodation, in another the special peculiarities of the site, or perhaps the axial placing of the building, not to mention numerous other factors less frequently the dominant ones. Then we come to the demands next in order of importance, and the attempt must be made to reconcile these with that placed first.

Somewhere about this stage the competitor will have had to form an idea of the general massing of his building and of the subdivision of this into various sections. This subdivision may be mainly vertical, as in the case of a hospital, or mainly horizontal as is the usual practice with public offices, or a mixture of both.

There are short cuts towards obtaining this idea of mass, but most competitors have adopted those most suited to their own methods, and these also vary so greatly with different classes of building that I feel it impracticable to deal with them in the time at my disposal.

Moreover, these are details. The main object to keep in view at the earlier stages of a competitive design is the retention of everything in as plastic a form as possible, so that all possible alternatives may be considered and compared before too much time is taken up with the detail of any one of them. It is most annoying, after having spent much time and skill in working out the detail of a scheme, to be forced to the conclusion that it is wrong in principle; for as we all recognise that competitions are, or ought to be, decided on their general merits as a solution of a definite problem, we cannot feel any hope of success with one, however brilliant in detail, that fails in our own view in its main conception.

Holding the views I do with regard to the basis on which a competition should be decided, I must point out how rarely is the double competition of advantage to those competing. The double competition has its uses where the promoters and their advisers have been unable completely to formulate their views, but almost its sole use is in placing before them a series of definite solutions from which they can realise how they have failed to grasp and express all that they had in mind. They are then able to supplement the programme and secure a design more closely approximating to their requirements. If this is clearly recognised it disposes of any argument for or against double competitions. The promoters are obviously entitled to claim that the problem is so complex that only by means of a double competition can the best result be secured, but solely on the ground that only after seeing sketch solutions can all the difficulties be realised. After all, one's private client has often to see two or three sets of sketches before he can fully explain himself. The main difference is that the assessors could usually clear up difficulties of this kind, and where they can the double competition becomes unnecessary.

I ought not to omit a brief reference to the International Competition. Considerable dissatis-

faction has been felt with the results of many of these, and so long as there are such marked national distinctions both in architectural ideals and in the whole training of the architect, it will be difficult to avoid this. It is all very well to regard art as a universal language, but if it is, the dialects differ vastly, and no civilised people capable of developing a national form of expression can be equally satisfied with any other. Therefore each member of an international jury will probably have an instinctive bias towards the work of his own countrymen, and however impartial each may desire to be, it is very difficult to arrive at unanimity. It is as if the exhibits at a flower show were all mixed up and you were asked to decide as to the finest flower amongst them. Now and then we may find an architect temperamentally qualified to adapt his ideas to a foreign environment, but except in such a case it is unlikely that his work will be entirely acceptable in a country not his own.

This Paper ought not to close without mention of the Regulations for International Architectural Competitions which were settled at Paris in 1908 by a Special Commission consisting of representatives of the various nations represented on the Comité Permanent des Congrès Internationaux des Architectes. Some interesting notes on the principal points discussed by the Commission will be found in the Report of the British Delegate, Mr. John W. Simpson, published, together with a translation of the Regulations as finally adopted, in the *Institute Journal* of 9th January 1909. The original French text was published in the *Journal* of 6th March following. The Regulations for International Competitions are among the professional Papers published in every issue of the *Institute Calendar*.

Perhaps I have taken you rather beyond the point suggested by the title of my Paper, but my excuse must be that we have not at present reached a point of finality in competition methods, and evolution in the past naturally leads up to the progress we hope to see in the future. Therefore, without going into technical details, I felt bound to give some slight indications of the possibilities in this direction, and now close my Paper in the hope that it may give rise to a useful discussion on aspects over which I have perhaps glanced too lightly.

DISCUSSION ON THE FOREGOING PAPER.

MR. ERNEST NEWTON, A.R.A., *President*, in the Chair.

MR. ALFRED W. S. CROSS, *Vice-President*, in moving a vote of thanks for the Paper, said that, although Mr. Lanchester had been unable to find any definite records of architectural competitions in ancient Greece, yet it was difficult to believe that the Greeks were unaccustomed to them. For the principles of competition and the spirit of emulation were so pronounced among the Greeks as to amaze their Persian enemies, who, during their great invasion of Greece and the subjugation of Athens, found the youth of that city voluntarily undergoing severe courses of physical training in connection with the Olympic games—not for wealth, but for glory. It was well known that public competitions were held in connection with trials of skill in literature, rhetoric, sculpture, and stage productions. Indeed, the beautiful Choragic Monument at Athens commemorated the victory gained by the chorus trained by Lysicrates in one of the annual dramatic contests. With this and other examples resulting from the universal application of the competition system to all branches of art, it may be reasonably assumed that many of her famous ancient examples of architecture owed their being to the same familiar principle. In a vain

search among the voluminous works of their old friend Herodotus for some remarks on architecture at Athens he had come upon a few lines that were certainly germane to the competition principle. It appeared that after the great naval victory at Salamis the prizes for valour were awarded in accordance with the votes of the candidates themselves. Thus, to those men who were deemed to have won distinction two votes—one of primary and one of secondary importance—were allotted. The inevitable happened. When the votes were counted it was found that each commander had nominated himself for the first prize. But a closer scrutiny of the votes revealed the fact that an overwhelming number of secondary votes had been recorded for Themistocles, to whom, by universal consent, the much-prized olive crown was awarded. Now, inasmuch as many architects were convinced that in some way or another competition designs should be assessed by the competitors themselves, some such system as that adopted by the Greeks for awarding distinctions gained in war might be tried in this country in connection with architectural competitions. As to Brunelleschi's dome at Florence, Vasari's description of the competition made

interesting reading. Fresh from the close study of many ancient Roman domes, Brunelleschi had determined upon the constructional principles he should adopt in the event of his services being retained for the work. But, although he had made a model, he was afraid to exhibit it, "knowing," to quote Vasari's words, "the imperfect intelligence of the assessors, the envy of the competitors, and the instability of the citizens who favoured now one competitor, now another, as each chanced to please them." The attempts to explain his ideas without exhibiting either plans or models in illustration of his proposals led to his being regarded as a fool and a babbler, and he was more than once dismissed, and on one occasion forcibly ejected from the public meeting at which he was vainly endeavouring to elucidate his proposal. This treatment caused Brunelleschi to say in after years that he dared not, at that time, pass through any part of the city lest someone should shout out after him, "See, there goes the lunatic!" The architect's final triumph, his quarrels with his colleague Ghiberti, and an extremely appreciative description of the famous dome, are all set out at some length by Vasari. Mr. Lanchester had discussed the competition for the completion of the Louvre in detail, but a few supplementary remarks might perhaps be of interest. He believed it was due to Colbert, who from the first determined that Claud Perrault's and not Bernini's design should be executed, that Bernini was ultimately sent back to Italy loaded with gifts and honours, and the French physician's stately structure of twenty-eight coupled Corinthian columns substituted *after* the foundation stone of Bernini's design had been laid by the King. Opinions differed as to the value of Bernini's work—his design had been preserved, but he (Mr. Cross) had never seen it. For instance, Fergusson said "that France might congratulate herself that nothing so horrible was perpetrated." On the other hand, Wren's one foreign tour was made at the time that Bernini was at work on the Louvre, and the great English architect appeared to have been very favourably impressed with the excellence of Bernini's work. As to the design, Wren remarked, "I would have given my skin for it, but the reserved old Italian gave me but a few minutes' view." But it must be remembered that at the time Wren visited Paris in 1666 his architectural powers were by no means at their zenith, and that often a phase of architectural work that would commend itself to a young architect would not be invariably received with favour by the man of more mature judgment. It was possible, after all, that Fergusson was right in his criticism that Bernini's elevation was too florid, and that the Government were well advised in substituting the French architect's design.

MR. J. S. GIBSON [*F.*], in seconding the vote of thanks, said that probably the ordinary layman would find the bulk of Mr. Lanchester's remarks as difficult to understand and as uninteresting as the Florentine

gentlemen of centuries ago, who were interested in competitions as promoters, would have done. Architects, however, would feel deeply indebted to Mr. Lanchester for compiling a Paper which, in every sense, was of the greatest value to them. It was of value because scarcely any among the crowds of young men who took up the profession of architecture but at some time or another became involved in the meshes of a competition. Whether he liked it or not, it was almost certain that some day he would be drawn into it. There seemed to be a fatal fascination about competitions, and, once the young man began to take part in them, it was astonishing how much he learnt and how much good the experience did him. Had a Paper such as this been read at the Institute when he (Mr. Gibson) was a much younger man it would have opened his eyes to the fact that this sort of attempt to establish oneself in some kind of architectural position really formed a page in the history of the great evolution of architecture, not only in this country, but in every country. For many years the Institute had done valuable work in trying to conduct and organise and carry on the work of competitions in such a way that architects, as well as the promoters and others having interests in good buildings and good architecture, should have fair conditions, that promoters should have the best services architects could give them, and that everything should be done with a view to improving the quality of the work. When the Paper was published it would be well worth their while to read it most carefully; they would learn from it many things which would be of extreme value to them in the future.

MR. A. E. RICHARDSON [*F.*] said he should like to endorse the appreciation which had been expressed of Mr. Lanchester's Paper. He (Mr. Richardson) did not understand much about competitions, but he had made some notes on their history. There was no reference in the Paper to any particular Roman competition; but in the Letters of Pliny he remembered reading some reference to a competition at Nicæa. A local architect was selected to design a theatre at Nicæa, but the foundations went wrong, and Trajan wrote in reply to Pliny's appeal for Roman architects, "Why send to Rome for architects, when you know full well we get them from Greece?" That was the only Roman competition he had encountered in his researches. Coming to the eighteenth century, Mr. Lanchester referred to the competition for a design for the Royal Exchange, Dublin, which brought forth designs from 61 architects and others, including doctors, lawyers, and military men. We know, of course, that architecture in Ireland, before the advent of Gandon, was in a very low state. Among the architects who competed were Thomas Ivory, James Gandon, Thomas Sandby, Thomas Crunden, George Richardson, and Thomas Cooley. The leading men, such as Adam and Chambers, thought the competition beneath their notice. Thomas Ivory's design was very much admired, though he did not receive the com-

mission, but he received a consolation prize in the form of a piece of silver plate. Passing over the interesting period of the early part of the nineteenth century, to the time when Cuthbert Brodrick competed for the design of the Town Hall at Leeds, Mr. Richardson remarked that Brodrick was twenty years of age when he won the competition for that magnificent building. The Committee were undecided whether such a young man should receive the award; but the Assessor very rightly said that a man who could produce such a design was equipped to carry it out. With regard to French competitions under the Second Empire, he thought the system of a double competition was sometimes a good one. It was not generally known that Garnier threw over his design for the Paris Opera House on being shown a plate of the fine theatre at Bordeaux; and the Paris Opera House was based on the plan of that theatre. A letter written by Professor Cockerell to the papers in 1857, on the system of competitions, might be said to shed a light on the competitions of to-day. He said: "The success of the system of competition depends primarily on the constitution of the tribunal appointed for the adjudication. This is the grand assurance of the integrity and the competency of the award, not only as doing exact justice to the public as respects the great object of the competition, but to the relative claims of those who have contributed their genius, experience, and expense towards that object. Without these secure foundations, the whole fabric falls to the ground, and our labours are fruitless and utterly abortive; adventurers alone will enter the chance medley; the ostentatious clap-trap takes the place of the soundness of design; fashion prevails over the permanent principles of art; true taste is put to flight; and experience, ever modest and real, shrinks from a tribunal in which it will be scarcely heard, much less valued, in the face of garish and attractive pretensions. The veteran declines to expose himself to the mortification and the injustice of a low standard of criticism: the public thus lose the advantage of long labour and devout studies: new names alone appear on the list of candidates, and the celebrities disappear from these most generous and interesting occasions: disgust and dissatisfaction generally follow." He thought Professor Cockerell's remarks most interesting, in view of the pernicious competition system of to-day.

Mr. ARTHUR J. DAVIS [F.] said he had been much interested in the Paper. There was one competition, and a very interesting one, in recent years which Mr. Lanchester had not commented upon—viz., that for the Church of the Sacré-Cœur in Paris. After the war of 1870 a number of eminent French Catholics, who thought the defeat of the French principally due to the lack of religion, got together large sums for the purpose of erecting a church which was to be a monument to Roman Catholicism in France and a request to the gods to forgive France for what was supposed to be her lack of religion. The

competition produced some very able designs, but, unfortunately, the winning design was not one of the best. They have all been reproduced, and some were extremely interesting. With regard to the competition for the Grand Palais, the plans of which Mr. Lanchester showed on the screen, some architects thought that it was a mistake to have put a dome on the Petit Palais at all. The avenue to the Pont Alexandre III. opened out for the purpose of showing up the fine dome built by Mansard, and it was a mistake to put the small one at the entrance of the vista, as it introduced a sort of anti-climax, and the stranger to Paris was not sure which dome belonged to it. The only other point was that the Place de la Concorde, which was originally designed with a moat all round, and which was placed behind the balustrades now there, was at that time inhabited by bears and wild animals. He did not know when the old moat was filled in; but in old prints this was shown.

PROFESSOR S. D. ADSHEAD [F.] said that Mr. Lanchester's Paper would be looked upon for some time to come as the standard treatise on competitions. He thought they might have heard during the discussion a little more criticism about the different methods of dealing with competitions; but the various speakers had refrained from treading upon that dangerous ground. He, therefore, should enter upon it with considerable reticence. In the jury system, as so ably expressed by César Daly, there seemed to be a danger of regarding assessing as work for a machine rather than for an individual. The award would usually be a compromise, and mere mechanical skill would be the first thing to count. The human factor ought not to be eliminated. He looked with some misgiving on a system of adjudicating competitions by jury.

Mr. H. HEATHCOTE STATHAM [F.] said that competitions were not adjudicated by a jury, but by a single assessor, and generally a committee were practically made to promise that they would bestow premiums according to the assessor's judgment. That, he thought, was one of the dangers of competitions. What was gained by the Council-appointed assessors was that the decision was always made in an honest way; every person appointed by the Institute gave the prize to what he believed to be the best design. But it was only the opinion of one man, who was fallible. It would be a better system if two or three assessors were appointed. One thing he had noticed several times was that competitions had been adjudicated upon by an architect who was very eminent as an artist, but who, perhaps, did not understand the particular system and plan required in the particular building. He could remember two or three cases in which the premium had been given to a design architecturally admirable, but which everyone knew was totally unsuitable in plan; and we had to remember that one man had only one judgment, and, as he said before, he was fallible. He thought they should rather look to a system of ap-

pointing two or three professional assessors, like a jury—people who were all competent, and would compare notes and, perhaps, correct special tendencies in any one of them.

Mr. E. A. RICKARDS [F.] said he found himself at variance with Mr. Lanchester when he expressed doubt that the best architect always made the best assessor. He thought that a man capable of designing was the one best able to recognise tendencies in others. He was also at variance with Mr. Cross when he doubted whether Wren had the right point of view in expressing his opinion about Bernini's design. Bernini's design had undoubtedly great merit. Wren was not a very young man when he saw Bernini's design. Even if he had not been in architecture very long, he must have been a man of very great sensibility. There was the danger nowadays of not having the courage of one's youth. He (Mr. Rickards) hoped that he personally should not go back on his youthful enthusiasms. He thought Mr. Cross seemed to take up that point about Wren rather too eagerly.

Mr. H. W. WILLS [F.] heartily supported the vote of thanks. Competitions, he thought, had found their excuse and justification in the very much greater attention which architects had been forced to devote to planning, because planning was the most important thing in architecture. Men had had to plan, and plan, and plan again, in order to have any chance of winning a competition, and it was that fact alone that had made them devote the attention they ought to devote to planning. The huge advance made since the planning of the 'sixties and 'seventies had been due almost entirely to the practice gained in architectural competitions. If he were to sum up the use of competitions in a sentence, he would say that it had been to combine the planning of the seventeenth and eighteenth centuries, which, though grand in its main outline and disposition, was found completely impractical when it was a question of arranging accommodation to the planning of the early and middle nineteenth century. It was by the combination of the two into one system that our buildings would be great gainers. And that was a result of the competition system.

THE PRESIDENT, in putting the vote of thanks, said that one thing struck him when listening to the Paper, and that was that, on the whole, the history of competitions seemed to show that, whatever the system of assessing, the scheme which was head and shoulders above all the others was generally successful. He mentioned this because it seemed to him that in that case competitors had the matter entirely in their own hands. The best man had merely to produce something which stood out as so much better than any other, and the assessor's work would be extremely easy!

Mr. LANCHESTER, in reply, thanked the meeting for the cordial way in which they had greeted his effort. He wished he could take the optimistic view of the President, that the head-and-shoulders best

plan would always come out on top, however adjudicated. He should feel happier in his mind if he could think that. But he admitted that very often competitions had resulted in the acceptance from time to time of some of the most brilliant plans that had been seen in the history of the profession.

Mr. HENRY T. HARE [F.] writes:—I have read with much interest Mr. Lanchester's excellent Paper on Architectural Competitions, and think that much good may result from the free discussion of the subject amongst architects, particularly those who have had personal experience of the many difficulties and pitfalls which arise.

The principle of competition is now so thoroughly established in the case of all works of public importance, that it becomes the duty of the R.I.B.A., as representing the best interests of architects and architecture, to use all its efforts to ensure that the outcome of such competitions should be commensurate with the enormous labour, thought, and skill which are expended on them. It is evident that a successful result can only be attained if a competition is conducted in such a manner as:—

- (a) To attract as competitors the most able architects.
- (b) To give the freest possible scope to the competitors to produce the best solution of the problem.
- (c) To ensure that the best design, both from the architectural and practical standpoint, is selected for execution.
- (d) To make it practically certain that the author of the selected design shall reap the fruits of his labour in the carrying out of the work.

To secure the first of these the terms and conditions of competition must be liberal and generous. Promoters may be reminded that they are obtaining from architects much more benefit than they would if they only had the work of one man at their disposal; therefore those competitors who may not be fortunate enough to secure selection are entitled to very generous treatment. On this will greatly depend the response from architects of experience in active practice.

The second essential is that no condition or stipulation should be introduced which would tend to hamper competitors in the evolution of their design, unless it is absolutely certain that such condition is imperative and unalterable. The neglect of this has resulted, in many cases, in the assessor being placed in the dilemma of either having to pass over the best design or to ignore his own conditions; and in either case the competition must be regarded as a failure.

As to the best method of ensuring that the best design submitted shall be selected, there is now no difference of opinion that the adjudication should be made by some person or persons with the highest technical knowledge and judgment. The Institute may, I think, congratulate itself that its consistent labours, extending over many years, to this end have resulted in the fact that no competition can now be

conducted successfully unless a qualified assessor is appointed to examine and report upon the designs submitted, and unless it is understood that his advice will be followed.

Mr. Lanchester quotes the report of the Special Committee of 1908, which recommends the appointment of a jury of assessors in important competitions, and rather appears to take it for granted that this is generally accepted as being desirable, and is the course officially followed by the R.I.B.A. I do not think, however, that this is so, for there have been important competitions, since 1908, in which only one assessor has been appointed by the R.I.B.A.; and, moreover, there is quite a considerable body of opinion against the "jury" system. I am one of those who entirely disagree with it, and consider that, given a competent assessor, a sounder judgment is likely to be arrived at by one man than by three. In all the competitions of recent years where more than one assessor has been engaged, I cannot call to mind a single case in which the award has given even limited satisfaction to archi-

tects, and in several cases very strong dissent has been expressed.

One would say, *prima facie*, that in the multitude of counsellors there would be wisdom; but, in practice, I very much doubt whether it is so in this case. It seems to me that if the jury are unanimous in their opinion there can be no necessity for more than one of them. If, on the other hand, they hold different views as to the best designs, one of two things is likely to happen. Either the strong man of the jury overrides his colleagues, or a compromise is effected by the selection of an inferior design to which no one can take very decided objection. I have had personal experience of one or two cases in which the latter result has actually been arrived at; and there is at least one case in which the former is generally supposed to have happened.

Mr. Lanchester's suggestion that where a jury is appointed one of them should deal with the promoters in the early stages is, I think, an excellent one.

MR. BARR FERREE'S PROPOSED "CHRONOLOGICAL CATALOGUE OF BUILDINGS AND ASSOCIATED ARTS" [JOURNAL R.I.B.A., 22nd May].

MEMBERS' CRITICISM.

From Professor BERESFORD PITE [F.]—

I think that there are insuperable difficulties in the compilation of a complete list of buildings and associated arts, and I doubt its practical value if effected. From the quantity of the subject-matter it would never attain completeness, and I personally should desiderate a catalogue beginning instead of ending with 1800 A.D.

"Chronology" suggests a prime difficulty. It is often doubtful, and subject to revision even when apparently settled by corroborative documents. Building chronology is progressive and indeterminate, and is as difficult to catalogue as a current.

"Buildings" suggests another stumbling-block. It will be impossible to include all or to settle the principle for exclusion. In mediaeval cities—*e.g.*, Bruges or Canterbury—civil, domestic, and military buildings and works predominate, having very different relative values, and adaptations, restoration and ruin will defy the classification due to a catalogue.

"Associated Arts" provides a final quicksand. The arts, fine, industrial, applied, or decorative, are indefinitely mixed, and offer the widest field for analysis and discussion, fruitless, I fear, because unpractical.

Mr. Barr Ferree's idea of cataloguing an intellectual expression in material form universal as humanity, must fail owing rather to the nature of the subject than to his want of imagination and faith, for which I have a real admiration.

BERESFORD PITE.

From Mr. THEODORE FYFE [F.]—

As Honorary Secretary of the Records Committee of the Institute, I should like to offer a few remarks on Mr. Barr Ferree's proposal to compile a Chronological Catalogue of Buildings erected before 1800 A.D., as set forth in the last issue of the JOURNAL.

In the first place I think it will be generally admitted that the aim of our American confrère is a valuable one, to direct into one channel the efforts of all engaged in making architectural records which fall within the scope of the suggested work. I think also, after reading the proposals carefully, that they are sound in their conception of how the work should be carried out. There appears to be nothing in their wording to which one might reasonably make any objection, except a sentence near the beginning of Section III., as follows: "In the study of architecture it is more important to know when a building was built than its form and dimensions." This is misleading because obviously untrue in the *practice* of architecture as a living art, and though I feel sure the author only intended to convey an archaeological meaning, I would venture to suggest that his argument would lose none of its force if he left this sentence out. The historic side is of the utmost importance, without doubt, but the scope of the Catalogue could be immensely widened by interesting the student of practical architecture and those engaged in teaching him such knowledge. To this end the proposed inclu-

sion of a reference to the most important monograph on each particular building should be supplemented by a reference to the best drawing or set of drawings of the building, where such drawings could be referred to, or if published, in what manner.

A full consideration of the labour involved should be faced before such a scheme as this is undertaken by anybody. Mr. Barr Ferree appears to have faced it to a great extent, but I might point out that it is not only the dedicatory names of churches that will involve "enormous labour and research," but, to a much greater extent, the accurate chronological information for each particular building which he regards as the basis of his catalogue. If one is content to state that a building belongs, broadly, to the early, middle, or late part of a century, the matter becomes comparatively simple, and in the case of the *Architectural Association Sketch Book*, when any difficulty arose, the editors have adopted this procedure since the late W. G. B. Lewis retired from the editorial staff. Chronology, however, was not the primary appeal of the *Sketch Book*, and I fancy Mr. Ferree would consider that his Catalogue should be governed by stricter requirements. I can certainly testify to the enormous labour involved by any strict enquiry into architectural dating. The well-known buildings (let us call them 50 per cent. of the total for the sake of argument) offer small difficulty, but the more obscure may offer many and thorny ones. For any really comprehensive scheme, one would require, I fear, the co-operation of scholars of all nationalities.

This brings one naturally to the matter of expense. Mr. Barr Ferree deals with this when he comes to publication, but though I do not suggest for a moment that he could fail to count on the enthusiasm and honorary service of very many of the collaborators required by his scheme, the organisation necessary to secure their co-operation might in itself involve great labour, amounting possibly to several years of work, on the part of a few.

I might recall the schemes of kindred interest with which the Records Committee has already been in touch. In the first place the Committee itself, in 1910, inaugurated a system of cataloguing English buildings in much the same manner as is now proposed for the wider field, but suspended their labours when the excellent series of County Histories prepared by the Royal Commission on Historical Monuments came into the field. In the second place the Committee has been consulted by Sir Laurence Gomme with reference to his catalogue of buildings of historic interest prior to 1750 A.D. in London.

I do not presume to indicate to what extent the Institute, as a body, should interest itself, financially or otherwise, in the scheme. This will doubtless be discussed at the proper time and in the proper quarter. The proposals now tentatively put forward by Mr. Barr Ferree, however, certainly deserve the attention of all interested in architectural research.

THEODORE FYFE.

From Mr. J. D. CRACE, F.S.A. [*Hon. A.*].—

It is perhaps a special and useful gift of all artists, and not least of architects, to dream magnificent dreams, and of such must, I think, be classed the "Chronological Catalogue of Buildings of Architectural Merit of all Countries" which is the subject of Mr. Barr Ferree's Paper. The proposal is stupendous—colossal—for it is to be a *complete* record, and "of all countries." It is only when one steadies one's thoughts to careful remembrance of the buildings of merit in one's own country that the mind can gradually realise how the vision ends in a vast, immeasurable perspective. Our cathedrals, village churches, mansions, manor houses, many of more merit than fame, would need how many volumes for even brief record and bibliography?

In France who shall count the buildings of architectural merit, and, even yet, in Belgium? In Holland, Germany, Austria, scarcely a town which has not fine examples. Italy has how many of which the tourist never heard? Greece, Spain, Portugal, not to mention other European countries.

But beyond Europe, how many thousands of interesting buildings—Egypt ancient and Mohammedan; North Africa with its countless monuments of a departed civilisation; Syria, Asia Minor and Persia; finally, vast India, needing a cyclopedia to itself; and other Far East countries of which we know so little. How shall the interesting and historic buildings of all these be brought into one catalogue—and for whose benefit? Who would purchase the huge work, if ever compiled?

No, it is a magnificent and colossal dream, but it is not a practicable one; nor is encyclopedic information likely to benefit art. Better is it for a man to study thoroughly what he can reach with the aid of good monographs than to gather superficial knowledge of the art of all the world.

Mr. Barr Ferree cannot realise how thickly the old world is strewn with its monuments of the past, and of these how valuable are some of those unknown to fame.

J. D. CRACE.

From Prof. CHARLES GOURLAY [*A.*], B.Sc., F.S.A.Scot., Royal Technical College, Glasgow—

Such a Chronological Catalogue of Buildings and Associated Arts as that proposed and outlined by Mr. Barr Ferree in the current issue of the *JOURNAL* would undoubtedly be of great value from every point of view. The idea is indeed a most interesting one. In support of it I may say that in 1894 Mr. Barr Ferree published in a magazine article a chronological summary in tabular form of French cathedrals which I have found to be most useful for reference. I understand from his article that he means the proposed catalogue to take a similar form, only that probably it would deal more fully with every building. If illustrations were not included I should consider it necessary to state in the catalogue where at least

the plan of the building referred to could be found. For it is a remarkable fact regarding many of the lesser known, but nevertheless architecturally important buildings referred to by historians, that their plans cannot be obtained, or are inaccurate, or do not distinguish between the parts erected at different periods. To obtain sufficient information about well-known buildings to enable correct plans to be drawn would not give much trouble, but for the minor buildings it would, in many cases, be extremely difficult. Such plans must, however, be obtainable in order that the catalogue may be a real aid to students. The reconciling of the opinions held by different archaeologists regarding the dates of parts of many buildings could only be carried out by experts of the highest standing who are willing to do so. For if all opinions on record regarding any structure are not weighed the mere cataloguing would not be of much service, and it would soon become obsolete. In conclusion, I must add that Mr. Barr Ferree has made an excellent statement showing the need and advisability of making such a catalogue, so that all who are competent and have the necessary time to devote to the execution of so great and so useful a work should lend a helping hand.

CHARLES GOURLAY.

From Mr. W. S. PURCHON, M.A. [A.], Lecturer on Architecture, University of Sheffield—

Mr. Ferree pleads ably for the publication of a complete catalogue of buildings of architectural merit, and he also goes a long way towards showing how this gigantic work can best be carried out. I feel that we must all agree with Mr. Ferree that the advantages of such a catalogue are so obvious that it is unnecessary to labour them, and I am sure there will be no difficulty in obtaining a sufficient number of experienced men willing to help in the publication of this useful work. The amount of labour involved would doubtless be enormous, and so it is with some trepidation that I venture to increase it. How often have we been annoyed at discovering that local guide-books (and even more important publications) ignore buildings erected after "the curtain fell on Gothic art"? Mr. Ferree is willing to include all built before 1800, but I for one hope the catalogue will include all works of real architectural merit built up to the time of going to press. In visiting a town for the first time I should like to be able to visit its reference library, turn up the "Chronological Catalogue of Buildings," and discover not only the dates of the Gothic Church and the Renaissance Town Hall, but also the names of the designers of its best modern buildings. I should be disappointed, for instance, if under "London" I could not find references to the British Museum and Scotland Yard; and what should we think if St. George's Hall did not appear under "Liverpool"? I realise that including worthy modern buildings would considerably increase the labour, give rise to much more or less stimulating

discussion, and might lead to a few living architects resigning their membership of local societies because their buildings were being included and those of rival architects excluded by the local committee. These things we could put up with cheerfully, but we must not support the notion that architecture ended either in 1600 or 1800.

One more suggestion. I think it will be necessary in some cases to catalogue some great buildings under their own names as well as under those of adjacent towns; those who do not know their Tennyson might possibly not know the position of "Burleigh-house by Stamford-town."

These, however, are minor points; the main thing at present is that we, as a corporate body, should approve the scheme and agree to take over the responsibility for the English section as soon as the more pressing claims of "Kultur" will allow.

W. S. PURCHON.

From Mr. ALBERT E. BULLOCK [A.]—

I have read with interest the leading article in the current number of the JOURNAL by Mr. Barr Ferree, of New York, upon the suggested chronology of buildings. England is certainly doing its share in this respect since there are several Societies busily engaged upon the Historic Survey of Buildings, which consequently necessitates their chronology. I refer to the Royal Commission on Historical Monuments of England, the London Survey Committee, which is incorporated with the London County Council and issues publications illustrating the various districts of London, and the Topographical Society, all of which have Committees rendering voluntary aid in this respect. The difficulties of so gigantic a scheme as that suggested by Mr. Ferree are: (1) that it involves an enormous amount of voluntary service; (2) that the public here are not sufficiently concerned to assist financially in so laudable an object; (3) that the Central Bureau would have to include representatives from different countries upon its Executive Committee who have been engaged upon biographical or historical research in order to avoid the present possibility to overlapping districts; and lastly, funds to support a large amount of paid labour and printing for permanent staffs would be essential. It will be interesting to learn what financial support America would contribute annually to such a scheme.

ALBERT E. BULLOCK.

Books Received.

- The English Countryside. By Ernest C. Palbrook. 1s. 8s. Lond. 1915. 7s. 6d. net. [B. T. Batsford, 94 High Holborn.]
 The College of Preceptors: Certificate and Lower Forms Examination Papers. Midsummer and Christmas, 1913 and 1914. 4 vols. 1s. each net. [College of Preceptors, Bloomsbury Square, W.C.]
 Victoria and Albert Museum: Review of the Principal Acquisitions, 1914. Illustrated. 116 pages. 1s. [H.M. Stationery Office.]
 European War, 1914-15: Resolutions of Protest. Official Correspondence, &c., relating to the Destruction of Historic Monuments during the War. 4d. post free. [Messrs. Hooker, Westerham, Kent.]

REVIEWS.

CANADIAN BUILDING STONES.

Report on the Building and Ornamental Stones of Canada. Vol. III. Province of Quebec. By Wm. A. Parks, B.A., Ph.D. 80. Ottawa, 1914. Government Printing Bureau.

This well-illustrated volume of 300 pages is the work of W. A. Parks, B.A., Ph.D., and gives an instructive insight into the methods adopted by our Colonies for the compilation of scientific and practical data relative to natural resources. Though the work as a whole necessarily possesses more local than general interest, a great deal of useful information for those concerned with stone in this country will be found between its covers.

The book opens with a short chapter on the testing of stones, these pages forming a *résumé* of the more detailed account of tests given in Vol. I. Of special interest here is a description of apparatus for making shearing tests, which are but seldom considered in this country, though failure of stone by shearing is exceedingly common.

Following a short geological introduction, the limestones and sandstones of Quebec are discussed in some ninety and twenty pages respectively, the details given including not only many analyses, but working particulars from the various quarries, illustrated by some excellent photographs. The granites and other igneous stones are then described in a chapter of fifty pages, which includes some photographs of polished granite faces which vie in merit with the well-known similar productions by the United States Government of the granites of America. The marbles and serpentines which exist in this province in important quantities are next discussed, and these are also illustrated in colour, and the methods of cutting and handling the stone are described. The former process, showing how marble is cut in the quarry when a surface exposure is obtainable, is well illustrated in the Report. Slates and the rarer stones are finally discussed, and the volume concludes with a comparative series of coloured plates of limestones, an appendix of tests, and an index and bibliography.

Well "got up" and printed, this work is to be commended not only to the notice of stone users, but to our own Government as an example to be followed in this country. Britain is a veritable museum of stones, for probably in no similar area in the world are so many varieties of building stones available, and yet we possess no authoritative compilation in any way approaching that under review. This is not the fault of our geologists, who could readily assemble the data for such a work, but of a supine national authority which has never been far-sighted enough to economise by expenditure of this nature. The Treasury possesses funds for industrial development, and a modification of the Minute allocating such resources might well be made to admit of the compilation of a work of this kind, which would be a national benefit.

ALAN E. MUNBY [F.].

CORRESPONDENCE.

The late Mr. Philip Webb.

4 Raymond Buildings, Gray's Inn, W.C.,
7th June 1915.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—Mr. Jack's note in the last issue of the JOURNAL is extremely valuable, but has he not overlooked the really important factors in the success of the work that he discusses? Webb's fine sense of the right handling of material and his capacity for designing beautiful detail contributed very much to the interest of his work, but these things do not make an architect, and I suggest that Webb's success grew mainly out of his power of conceiving a building as a whole. He evidently had unusual ability for clear, original thought—it showed itself constantly in a certain freshness and independence that marks his buildings—and this ability led him to an adequate grasp of the conditions to be met in each case, and to a ready conception of how they could be used in producing an effective building. His work is characterised by reserve and restraint, but it is particularly effective, and I think this shows his mastery of composition; he seems to have realised very fully the value of concentration and contrast. Another factor in his success, a less important one, but still valuable and akin to the last, was his skill in grouping the minor features of a building—chimneys, windows, gables, and the like. His work seems to me to be admirable in this respect. Then, I think, he showed from the first a very fine instinct for proportion and right scale, which are again great accessories to design, but are all too rarely found in much perfection. Another thing that he showed a good understanding of, and in a more reasonable and restrained way than his contemporary Butterfield, was colour. I judge that his influence in this respect was very strong and useful. In fact, as it seems to me, Webb had an instinctive perception of most of the factors of sound and successful architectural design; instinctive because it is displayed in his earliest works as well as in his later ones.

The fact of Webb's influence and the soundness of it are very widely admitted, and this would not be the case unless his work really possessed the qualities that I think are found in it. Still, it must be readily agreed that those which Mr. Jack has referred to are particularly characteristic of his work, and they probably appealed with great force to Morris and Rossetti and others whose co-operation helped to develop his abilities. We are indebted to Mr. Jack for the very clear and convincing account of Webb and his doings that he has contributed to the JOURNAL, and for the list of Webb's works that he has given us.

Yours faithfully,

ARTHUR KEEN [F.].



9 CONDUIT STREET, LONDON, W., 12th June 1915.

CHRONICLE.

R.I.B.A. Record of Honour : Twelfth List.

Killed in Action.

ADAMS, LAURENCE KINGSTON [*Associate* 1913], 1st Lieutenant, 7th King's Liverpool Regiment. Killed near Festubert during night of 16th-17th May, while gallantly leading his platoon in an attack on the German trenches. Aged 28 years.

Lieutenant Adams was the son of Mr. William Adams, of Wyndeliffe, Birkdale, Southport, and was educated at Ellernay Park School, Wallasey, and at Shrewsbury College. He commenced his architectural education at the Liverpool University School of Architecture, taking his degree with first-class honours in architecture. After completing the University course, he remained for a year with Professor Reilly, and in 1909 joined the staff of Messrs. Wm. & Segar Owen, of Warrington, remaining with them until the Territorial Forces were mobilised last August, when he volunteered for foreign service.

His brother-in-law (Captain Marriott, of the same regiment, who also took part in the action) writes: "Lieut. Adams was set a difficult task, but he carried it out like the fine soldier he was; the attack was most successful, though our losses were heavy." Lieut. Adams had gained the parapet of the trench when he was shot through the heart. Some members of his platoon buried him in a quiet spot about a mile away, and set up a cross bearing his initials over the grave, the operation being carried out under fire.

TURNER, THOMAS EDWIN [*Student R.I.B.A.*], Lieut., 13th County of London (Kensington) Regiment. Killed while leading his men in an attack on the Aubers Ridge on 9th May. Aged 25 years.

Mr. Turner was the son of Mr. C. W. Turner, of Selwyn Lodge, Solihull, and was educated at Rugby. He served his articles with Mr. Charles E. Bateman, of Birmingham, and was afterwards in the offices respectively of Mr. Ralph Knott, Messrs. Scott & Fraser, and Mr. Ernest Newton, A.R.A. He was winner of the Birmingham Architectural Studentship in 1910, and was later awarded a Royal Academy Studentship.

Mr. Charles E. Bateman [*F.*] writes: "From the moment he entered my office I realised that I had in Mr. Turner a pupil of real promise, and I found that his character, combined with his ability and love of architecture, developed and grew each year, until at the end of his term, when he went to London, I was certain that with a wider range of study, and given the opportunity, he would not only excel in, but give distinction to any architectural work entrusted to him."

Mr. Ralph Knott writes: "It was a great shock to all of us at Adelphi Terrace House when we heard of Lieut. T. E. Turner's death. He was the finest type of Englishman—modest and retiring, but very capable; his kind disposition

made him a general favourite. Given the opportunity, he would have done beautiful, sincere work, for that was the man."

Mr. Ernest Newton, A.R.A., writes: "Lieut. Turner was in my office for some time. He was an able assistant, hard-working and conscientious. He was liked by everybody in the office, and I had a great regard for him and esteem for his honourable and upright character. An officer informs me that he was making quite a name for himself as an officer, and had already been promoted."

IRVIN, JOHN HAWKSMORE [*Probationer R.I.B.A.*], of the 4th Battalion Seaforth Highlanders. Killed in action on 9th May. Aged 26 years.

Mr. J. H. Irvin, who was the son of Captain T. M. Irvin, R.N. (retired), served his articles with Mr. Richard Crosland, of Harrogate, was afterwards with Mr. Horace Cubitt [*A.*] as improver, and later with Mr. Sylvester Sullivan [*A.*] as assistant. He joined the Seaforths on the outbreak of war, and had been at the front since the beginning of November. He met his death in the storming of the German trenches in Flanders, all the officers of his battalion sharing his fate, and only seven men surviving of his platoon. He leaves a young widow.

GALPIN, FRANK W., of the London Rifle Brigade. Killed in action on 13th May. Aged 24 years.

"A noble ending to a noble life, for his was a character of great charm and beauty," writes Mr. Henry James Wise [*F.*], in whose office Mr. Galpin was assistant. He had previously been with Mr. Bass, Quantity Surveyor, and in the Surveying Department of the Office of Works.

Died from Wounds.

HARRISON, CHRISTOPHER RENÉ [*Licentiate* 1911], Lieutenant, 3rd (attached 2nd) Leicester Regiment. Wounded in the night attack near Festubert, 15th-16th May, and died in the Military Base Hospital at Boulogne on the 24th May.

Lieutenant C. R. Harrison was the youngest son of Mr. Frederic Harrison, the distinguished historian and writer, and brother of Mr. Austin Harrison, editor of the *English Review*. He was born on 27th April, 1877, was educated at Clifton College, and took his B.A. degree at Merton College, Oxford. He was for some years in the office of Sir Thomas Jackson, R.A., and afterwards practised his profession in England and later in the Argentine. Returning home on the eve of the war, he obtained a commission in the Leicester Regiment, and had been at the front since February.

Missing.

BOWNASS, JAMES EVERETT [*Associate* 1909], Princess Patricia's Light Infantry. Reported missing.

Wounded.

MANN, HENRY WILLIAM [*Associate* 1914], Sergeant, Essex Yeomanry. During a charge near Ypres received a bullet wound through the left side. Now in the Bagthorpe Military Hospital, Nottingham.

DALGLIESH, KENNETH [*Associate* 1912], 2nd Lieutenant, 4th Leicestershire Regiment. Wounded 2nd May. Has suffered amputation of left arm. Is in the Base Hospital at Boulogne, and progressing favourably.

Lieut. Dalgliesh, owing to a shortage of officers, was doing extra duty in charge of an advanced post on the Messines Ridge, when he was picked off by a sniper. The bullet struck

him over the heart, but was turned into his left arm by the contents of his breast-pocket—flask, metal mirror, pocket-book, etc. Efforts were made to save the arm, but it was so severely torn, not only by the bullet, but by the glass and metal of his flask, that amputation became necessary.

JONES, LEWIS FAREWELL [*Student 1907*], Captain, 12th London Regiment. Wounded and in hospital in London. Making good recovery.

On War Service.

The following is the Twelfth List of Members, Licentiates, and Students who have joined H.M. Forces for the period of the War, the total to date being 41 Fellows, 284 Associates, 135 Licentiates, 2 Hon. Associates, 164 Students:

ASSOCIATES.

Bond, A. G. : Lieut., R.E. Railway Transport Establishment.
Carmichael, D. A. : 2nd Lieut., 7th Royal Fusiliers.
Coates, W. V. : 2nd Lieut., 9th Bn. Norfolk Regt.
Fetherstonhaugh, H. L. : Canadian Field Artillery.
Hobbiss, Holland W. : 2nd Lieut., 2/1 South Midland Warwickshire R.G.A.
Honan, Matthew : Captain, 10th Bn. South Lancashire Regt.
MacRae, E. J. : City of Edinburgh R.E.
Mitchell, Wm. H. : 21st Bn. Royal Fusiliers.
Pywell, W. J. : H.A.C.
Rogerson, John : Major, Officer Commanding R.G.A. Clyde Defences.
Ross, H. A. : R.E.
Stedman, W. B. : R.A.M.C.
Symmonds, W. : 35th Bn. Canadian Regiment.
Williams, Stanley H. : 2nd Lieut., 8th Bn. Wiltshire Regt.
Wilson, Ralph : H.A.C.

LICENTIATES.

Bevan, T. M. : 2nd Lieut., Glamorgan Yeomanry.
Bowden, E. E. : 16th Bn. Middlesex Regt.
Cogswell, A. E. : Major, 1st Wessex Brigade R.F.A.
Deakin, F. M. : H.A.C.
Ellis, E. M. : Lieut., H.A.C.
Hewitt, S. G. : Lieut., 16th Bn. Cheshire Regt.
Leahy, W. J. : Motor Cycle Section at the Front.
Masters, F. N. D. : 2/8th London Howitzer Brigade, R.F.A.
Moore, H. E. : Lieut., Royal Monmouthshire R.E.
Morley, John : Major, The Cambridgeshire Regt.
Newman, B. Leigh : Canadian Army Service Corps.
Newton, Geo. : 2nd Lieut., Northumberland Divisional Cyclist Company.
Pollard, Ernest A. : Lieut., 5th Bn. West Yorkshire Regt.
Roberts, G. A. : Major, 1st Brigade Australian Imperial Force.
Smith, W. M. : 2nd Bn. Transvaal Scottish.
Stevenson, E. G. : Asst. Divisional Officer, Staff for R.E. Services.
Sutherland, G. A. : Lieut., 2/5th Seaforth Highlanders.
Weightman, F. N. : Northumbrian R.A.M.C.

STUDENTS.

Aslin, C. H. : Army Pay Corps.
Blyth, C. K. : 3/15th London Regt.
Bridgman, G. S. : R.E.
Davis, H. S. : Captain, 5th Bn. Gloucester Regt.
Dunkerley, L. R. B. : Lieut., 24th Bn. Manchester Regt.
Francis, C. E. : Artists' Rifles.
Goodwyn, C. C. : 2nd Lieut., Oxon. & Bucks Light Infantry.
Hall, H. J. : Glamorgan Yeomanry.
Howell, R. B. : 2nd Lieut., 4th Bn. North Staffordshire (att. 2nd Bn. Northumberland) Fusiliers.
Knight, Stanley : R.E.
Peters, K. : R.E.
Rees, F. W. : 1st Glamorgan R.E.

Rignal, F. : R.E.

Sanders, J. E. : Lancashire Hussars.

Shurmur, S. E. : Motor Ambulance (Driver), France.

Stephens, W. L. : R.N.D. Engineer Unit.

Williams, Percy J. : 11th Bn. Welsh Regt.

Wilson, F. C. : Lieut., South Staffs Regt.

Lieut.-Colonel A. B. Hubback [*F.*] (of the Public Works Department, Kuala Lumpur), formerly Major 19th Battalion London Regiment, and now Lieut.-Colonel commanding the 20th Battalion, has received the following gratifying message from the Brigadier-General commanding the 142nd Infantry Brigade: "Very many thanks for myself and all ranks 142nd Brigade to yourself and the 20th Battalion for your really stout and able co-operation during the recent operations. We shall always remember it with gratitude."

Mr. Herbert Langman [*A.*], formerly of the Royal Engineers, is now 2nd Lieut., 12th Bn. Royal Warwickshire Regiment.

Mr. Stephen J. B. Stanton [*A.*], formerly of the Artists' Rifles, is now 2nd Lieut., 6th Northumberland Fusiliers.

Mr. C. Orlando Law [*Licentiate*], formerly of the 3rd Hussars, is now 2nd Lieut., Royal Engineers (Mounted Bridging Section).

Mr. Percy W. Lovell [*A.*], formerly of the Artists' Rifles, is now 1st Lieut., 6th (Territorial) Bn. Northumberland Fusiliers.

The War: Restriction of Building Operations: Civic Survey Work for the Relief of Architects.

The lamentable condition in which the building industry finds itself, owing to the discouragement by the Local Government Board of municipal building undertakings during the War, has received the serious attention of the Institute Council, and the following correspondence has taken place on the subject:—

Royal Institute of British Architects,
9 Conduit Street, W. : 10th May 1915.

To the President of the Local Government Board,—

SIR,—The Council of the Royal Institute of British Architects view with considerable anxiety the decision of the Government to restrict building operations throughout the country in order that all available labour may be organised for War work.

Architects have already suffered perhaps more than any other class from the diminution of private building on account of the War, and if municipal and Government building is stopped or very greatly reduced the unemployment and consequent distress amongst architects will be very serious.

Already a very large number of cases have come under the care of our Benevolent Society, whose funds will be quite inadequate to meet further abnormal distress.

Undoubtedly everything must give way to the urgent military needs of the country, and architects, who have already contributed some 1,500 men to the fighting forces, fully recognise this, and are ready to bear loyally their share of the burden; but they feel that, while the Government's action will probably not be productive of hardship to the labour employed in the building trade, the effect upon their profession of the wholesale abandonment of building work may possibly not have received the consideration that it merits, and, should the distress be as widespread as they have reason to fear, they trust that the position of



[Jas. Bacon & Sons, Newcastle-on-Tyne.]

Captain GEORGE EDWARD HUNTER,
6th Northumberland Fusiliers, *Associate*.
Killed in action (see pp. 373, 402).



[S. J. Muir, Gerard's Cross.]

W. LEONARD B. LEECH,
Rifleman, 9th County of London, *Associate*.
Died of wounds (see pp. 373, 403).



[Swaine, New Bond Street.]

Lieut. CHRISTOPHER RENÉ HARRISON,
3rd Leicester Regiment, *Lieutenant*.
Died of wounds (see p. 396).



[The Wykeham Studios, Victoria Street.]

THOMAS WM DOWSETT,
Sergeant, Hon. Artillery Company, *Student*.
Killed in action (see p. 277).



[Studio, New Bond Street.]

Lieut. THOMAS EDWIN TURNER,
13th County of London Regiment, *Student*.
Killed in action (see p. 396).



[H. & W. Fisk-Moore, Canterbury.]

Lieut. LAWRENCE KINGSTON ADAMS,
7th King's Liverpool Regiment, *Associate*.
Killed in action (see p. 396).



[J. Weston & Son, Sloane Street.]

2nd Lieut. HENRY MONTAGU WHITEHEAD
4th Batt. East Surrey Regiment, *Student*.
Killed in action (see p. 397).



[Chas. Nicol, Jesmond.]

ALBERT EDWARD LOWER,
A.S.C. 6th Northumberland Fusiliers, *Associate*.
Killed in action (see p. 397).

architects, whose professional work has been diminished by the Government's organisation of industry and economic resources, will not be overlooked.

If an opportunity is to be given to the representatives of interests affected by Government action to appear before the Royal Commission which has recently been appointed to consider what steps should be taken to compensate those who have suffered through the action of the State in the execution of measures necessary for the successful conduct of the War, the Council of the Royal Institute trust that they too will be invited to give evidence on behalf of their profession.—I am, Sir, your obedient servant,

IAN MACALISTER, *Secretary*.

To this letter the Local Government Board replied:—

*Local Government Board, Whitehall, S.W.
22nd May 1915.*

To the Secretary, Royal Institute of British Architects,—

SIR,—In reply to your letter of the 10th instant, I am directed by the President of the Local Government Board to say that the Government Committee on the Prevention and Relief of Distress appointed a special Sub-Committee to deal with the distress among the professional classes due to the War, and that this Sub-Committee has been in correspondence both with the Royal Institute of British Architects and with other Societies representing the interests of architects and surveyors with regard to the measures which may be taken for the assistance of members of these professions. A scheme of civic survey has now been approved by the Sub-Committee, who are prepared to recommend grants from the National Relief Fund in aid of it.

The President hopes that this scheme will be the means of giving employment to a number of distressed architects, and that the grants in aid will render your Society's Benevolent Fund adequate to meet the demands that may be made upon it.

I am to add that it does not appear to the President that the position of architects whose professional work has been diminished in consequence of the War would come within the scope of any tribunal which may be established under the provisions of the Defence of the Realm Act.—I am, Sir, your obedient servant,

A. V. SYMONDS, *Assistant Secretary*.

Further Grant to the Architectural Association.

In the JOURNAL for 20th March reference was made to the difficulties in which the Architectural Association was placed owing to the loss of subscriptions of members and of students in the Schools who had given up their work and studies and enlisted for the War. The deficit on the present session was estimated to amount to as much as £1,000. In response to the appeal of the President of the Association, Mr. Maurice Webb, the Council of the Institute made a grant of £350, and, at the instance of Sir Aston Webb

and Mr. Macvicar Anderson, a further grant of £250 out of the balance of the Anderson-Webb Trust Fund. The Council have since been placed in a position to make a further contribution of £200—bringing the total contributions from R.I.B.A. sources up to £800.

Sufferings of the Professional Classes.

At a meeting held at Lady Northcote's residence in St. James's Place on 1st June for the purpose of considering the problem of distress among the professional classes owing to the War, Sir John Simon, the Home Secretary, appealed on behalf of the War Relief Council. The professional classes, he said, were among those upon whom the extra remuneration involved by the War was not likely to fall, and they were enduring much suffering. Many belonging to this class who had high hopes of entering on a successful career, and others who had contemplated a peaceful old age, were faced with the agony of anxiety concerning those near and dear to them. It was hard that these people, with England's future at stake, willing to play their part, should have to occupy their minds so much with individual difficulties.

Sir John Simon drew a poignant picture of the young architect, musician, or member of the legal or literary profession, with a promising career and a small but happy home, with health, ambition, strength, and willing to do his best for his country, suddenly oppressed by dire personal needs. There was also the sad and common case of the professional man who had stunted himself in order that his son should have a good education. Through no fault of his own his income had dropped, and people were not building houses, buying pictures, attending his concerts, or resorting as usual to litigation.

Major Leonard Darwin, who presided, said that still greater suffering confronted the professional classes whose savings were becoming exhausted, and who would feel the increasing strain in the winter.

An address was given by Sir John McClure, President of the Incorporated Association of Headmasters, who emphasised the Council's need of funds and its work in dealing with cases which could not be so effectually met by public organisations.

Professional Classes War Relief Council: A Whistler Exhibition.

An important exhibition of Whistler's works was opened on 1st June at the Galleries of Messrs. Colnaghi & Obach, 144-146 New Bond Street, for a period of six weeks. The display, which consists of pictures in oil, pastels, and drawings, should prove of exceptional interest, as it is the first exhibition to be opened since the "Memorial" of 1905. Thanks to the generosity of the collector, a lady who wishes to remain anonymous, the proceeds are to be given to the Professional Classes War Relief Council. The exhibition is open daily from 10 till 6, Saturdays 10 till 1 p.m.; admission, 1s.

The Annual Elections: Scrutineers' Reports.

The results of the Annual Elections are recorded in the subjoined Reports of the Scrutineers, which, in accordance with the By-law, were read at the General Meeting last Monday.

The Scrutineers appointed to count the votes for the election of the Council and Standing Committees for the Session 1915-16 beg to report as follows:—

635 envelopes were received—286 from Fellows, 342 from Associates, and 7 from Hon. Associates. The result of the election is as follows:—

PRESIDENT.—Ernest Newton, A.R.A.

PAST-PRESIDENTS.—Reginald Blomfield, R.A., Thomas Edward Colclutt.

VICE-PRESIDENTS.—*Elected*: Henry Vaughan Lanchester, 378 votes; Paul Waterhouse, 357; Sir John Burnet, 353; John Alfred Gotch, 306. *Not Elected*: Edwin Landseer Lutyens, Alfred William Stephens Cross, George Hubbard.

HONORARY SECRETARY.—Edward Guy Dawber.

(Signed) H. FAVARGER, *Chairman*, } Scrutineers.
C. H. BRODIE,

REPRESENTATIVES OF ALLIED SOCIETIES.—Graham Clifford Awdry (Bristol), Robert Burns Dick (Northern), Frank Brookhouse Dunkerley (Manchester), Charles Kempton (Leicester), Adam Francis Watson (Sheffield), John Watson (Glasgow).

REPRESENTATIVE OF THE ARCHITECTURAL ASSOCIATION.—Herbert Austen Hall.

HONORARY AUDITORS.—Robert Stephen Ayling, Arthur William Sheppard.

(Signed) H. FAVARGER, *Chairman of Scrutineers*.

MEMBERS OF COUNCIL.

Elected: David Barclay Niven, 449 votes; Henry Thomas Hare, 440; Gerald Calcott Horsley, 435; Andrew Noble Prentice, 431; Edwin Alfred Richards, 421; Stanley Davenport Adshad, 416; Percy Scott Worthington, 409; William Curtis Green, 401; William Gillbee Scott, 381; Herbert Duncan Searles-Wood, 381; Alexander Nisbet Paterson, 369; Walter Cave, 363; Albert Edward Richardson, 359; Arthur Keen, 344; Harry Redfern, 330; Henry Philip Burke Downing, 321; John James Joass, 312; Emanuel Vincent Harris, 311. *Not Elected*: Max Clarke, Samuel Perkins Pick, Arthur Rutherford Jemmett, Sydney Perks, Herbert Winkler Wills, Arthur J. Davis, Ernest Richard Eckett Sutton, Matt. Garbutt, Henry Victor Ashley.

627 papers were received, of which 15 were invalid.

(Signed) H. FAVARGER, *Chairman*, } Scrutineers.
GUY CHURCH,
HENRY J. WISE,
HAROLD A. WOODINGTON,
EDWARD BOEHMER,
ERNEST G. ALLEN,

ASSOCIATE-MEMBERS OF COUNCIL.

Elected: William Robert Davidge, 399 votes; Leonard Rome Guthrie, 399; Herbert Shepherd, 381; Horace Cubitt, 377; Herbert Arthur Welch, 337; Philip Edward Webb, 335. *Not Elected*: George Leonard Elkington, John Anderson, Leo Sylvester Sullivan, John Ernest Nowberry.

604 papers were received, of which 7 were invalid.

(Signed) H. FAVARGER, *Chairman*, } Scrutineers.
BRUCE DAWSON,
W. R. JAGGARD,
JOHN H. BEART-FOSS,

ART STANDING COMMITTEE.

FELLOWS.—*Elected*: Edward Guy Dawber, 436 votes; Halsey Ricardo, 418; John Alfred Gotch, 414; Gerald Calcott Horsley, 404; Henry Vaughan Lanchester, 361; Giles Gilbert

Scott, 349; Arthur Keen, 348; William Adam Forsyth, 347; Edward Prioleau Warren, 334; Henry Heathcote Statham, 321. *Not Elected*: Henry Philip Burke Downing, Harry Redfern, Raymond Unwin, Arthur J. Davis, Harry Sirr, James Mitchell White Halley.

ASSOCIATES (unopposed).—Robert Atkinson, Hubert Springfield East, Leonard Rome Guthrie, Basil Oliver, Alfred Wyatt Papworth, Philip Edward Webb.

556 papers were received, of which 13 were invalid.

(Signed) H. FAVARGER, *Chairman*, } Scrutineers.
PAGET L. BAXTER,
LESLIE WILKINSON,
ROLAND WELCH,
LIONEL U. GRACE,

LITERATURE STANDING COMMITTEE.

FELLOWS.—*Elected*: Andrew Noble Prentice, 494 votes; Paul Waterhouse, 488; Albert Edward Richardson, 463; Arthur Stratton, 462; Charles Harrison Townsend, 457; Arthur Thomas Bolton, 454; Edwin Alfred Richards, 433; Charles Sydney Spooner, 427; David Theodore Fyfe, 420; George Halford Fellowes Prynn, 417. *Not Elected*: Herbert Hardy Wigglesworth.

ASSOCIATES.—*Elected*: Martin Shaw Briggs, 404 votes; Herbert Passmore, 396; William Henry Ward, 394; Walter Lewis Spiers, 380; William James Davies, 325; Stanley Churchill Ramsey, 316. *Not Elected*: John Stevens Lee, Charles Edward Sayer, Thomas Simons Attlee.

566 papers were received, of which 2 were invalid.

(Signed) H. FAVARGER, *Chairman*, } Scrutineers.
E. ALEX YOUNG,
ALBERT E. BULLOCK,
T. F. AMERY,
C. E. HUTCHINSON,

PRACTICE STANDING COMMITTEE.

FELLOWS.—*Elected*: Herbert Duncan Searles-Wood, 405 votes; Max Clarke, 375; David Barclay Niven, 364; George Hubbard, 342; Matt Garbutt, 336; Alfred Saxon Snell, 312; William Henry Atkin-Berry, 310; Herbert Osborn Cresswell, 306; Edward Greenop, 306; Alfred William Stephens Cross, 305. *Not Elected*: Sydney Perks, Alan Edward Munby, William Henry White, John Hudson, Francis T. Wilberforce Goldsmith, Henry Percival Monekton, Frederick William Marks, Ernest John Gosling.

ASSOCIATES.—*Elected*: Edwin Gunn, 466 votes; John Douglas Scott, 446; Horace William Cubitt, 444; Herbert Shepherd, 432; Percival Maurice Fraser, 427; Henry Albert Saul, 423. *Not Elected*: James William Stonhold.

569 papers were received, of which 11 were invalid.

(Signed) H. FAVARGER, *Chairman*, } Scrutineers.
THOMAS DAVISON,
P. ION ELTON,
HYLTON B. ELKINGTON,
CHAS. A. DAUBNEY,

SCIENCE STANDING COMMITTEE.

FELLOWS.—*Elected*: Bernard Dicksee, 444 votes; William Edward Vernon Crompton, 423; Frederic Richard Farrow, 420; Charles Stanley Peach, 415; Harry Percy Adams, 412; Ravenscroft Elsey Smith, 412; Robert Stephen Ayling, 405; Alfred Conder, 394; Allan Ovenden Collard, 384; Horace Cheston, 348. *Not Elected*: Ernest Flint, Osborn Cluse Hills.

ASSOCIATES.—*Elected*: William Robert Davidge, 430; George Leonard Elkington, 410; Robert John Angel, 386; Ernest William Malpas Wonnacott, 361; Digby Lewis Solomon, 339; Henry William Burrows, 332. *Not Elected*: Norman Odell Searle, Charles Edward Varndell.

560 papers were received, of which 18 were invalid.

(Signed) H. FAVARGER, *Chairman*, } Scrutineers.
J. HERBERT BEIFRAGE,
OTTO S. DOLL,
G. REGINALD FARROW,

Alien Enemy Members: The Council's Decision.

At the Business General Meeting of the Royal Institute held on Monday, 7th June, the Secretary announced that the Council at their meeting held earlier in the day had decided to delete the names of alien enemy members from the R.I.B.A. KALENDAR.

Cities and Town Planning Exhibition: Professor Geddes' Acknowledgments.

Members will recall the exhibition of maps and drawings in connection with town planning held at the Institute last December, the exhibits forming part of a collection got together through the exertions of Mr. H. V. Lanchester and others to replace in part Professor Geddes' fine collection, known as the Cities and Town Planning Exhibition, which had been lost on its way to India through the sinking of the *Clan Grant*. Many of the new drawings had been prepared, under the auspices of the Architects' War Committee, by architects whose ordinary business had been suspended owing to the war. The new collection was sent to Professor Geddes, and has been acknowledged in the following letter:

Madras: 10th June 1915.

DEAR FRIENDS AND FELLOW WORKERS,—Now that our first exhibition here has just closed, and we are packing up for the next one (in Bombay), the time has fully come to review the situation, and to realise how much we are indebted to you for saving it.

I can recall nothing more gratifying in my life than the cable which told us—before our letters asking for help towards re-organisation after disaster had got half-way home—that our hopes and requests were being anticipated before they had reached you; and that your work had thus independently and promptly, as well as generously, begun.

While, of course, we also here have been doing what we could (chiefly with Indian plans, and such European scraps as we could muster), you can imagine the anxiety with which we awaited your promised consignments, and the interest with which we have opened each as it arrived, like children peering into the Christmas stocking!

These hopes have been far more than fulfilled. We are not only delighted, but surprised—astonished—by the quantity, as well as rejoiced (and instructed too) by the quality, of the exhibits you have sent us. So many exhibits, so well chosen, so well executed! Our exhibition has thus been a success, and not merely a "*succès d'estime*." Even now the whole has not reached us; so that our approaching Bombay show may be looked forward to with confidence, instead of with the inevitable depression which we sometimes felt before the last.

You will be glad, too, to know that your trouble has not been wasted. Besides the people interested in this great, and in many ways beautiful, capital, there have been at the exhibition, mostly for a fortnight, and some for three weeks, the representatives of most

of the 65 towns and cities of the Presidency, which roughly compares in population and extent to the United Kingdom. Their mayors, engineers, etc., have been busy students, and we have had a practical class for the latter, revising the improvements now in progress. Something of the same kind may now be done in Bombay and in Calcutta also; so that in this way the cities are being reached, indeed more fully in some ways than as yet at home.

I hope that all who have shared in this reconstructive work of the exhibition have also found some pleasure in it; and that this is but a phase of that wider co-operation which we all may increasingly see before us, towards the renewal of cities—whether those destroyed by war abroad or those deteriorated in peace at home.

Your admirable work for us here shows in it the high tension of war time; yet the application to a better time coming. It has thus been more than a re-blazoning of old standards, an uplifting of new ones.

Once more then we thank you one and all; organisers and draughtsmen alike.—Heartily and gratefully yours,

PATRICK GEDDES,

Director of the Cities and Town Planning Exhibition.

ALASDAIR GEDDES,

Assistant.

CAPTAIN GEORGE EDWARD HUNTER.

KILLED IN ACTION, 26TH APRIL 1915.

The Dread Reaper following in the wake of nations at war is no longer content with the primitive scythe and the limited harvest provided by standing armies. Man, with developing ingenuity, has brought into being scientific machinery whereby his "last great Enemy" may garner more surely; not only those at one time allotted to war, but every section of the community must now be drawn upon to feed the devilish mechanism of extermination he has devised. The man of peaceful industry, the cultured pursuer of higher ideals, the searcher after truth, men in all walks of life, because of their still living faith in the destinies of their race, are found with lofty abnegation immolating themselves in order to stay the rush of Liberty's destroyer.

That the ennobling profession of architecture is not lacking in these great souls is being daily demonstrated in our midst; men brilliant in promise in their adopted calling, and above all great in moral worth and character, are sacrificing themselves uncomplainingly to crush this incarnate spirit of materialism that threatens to overwhelm us.

Of the many splendid young men who have added lustre to the annals of the R.I.B.A. by their sacrifice, no finer example could be found than in the person of the late Captain George Edward Hunter, the Associate who recently so gallantly gave his life in defence of his country.

Possessed of a singular charm of manner, generous to a fault, the soul of honour, strong and manly in body and mind, he was in truth most fitly described as a "gallant English gentleman." The fact that his bereaved parents received upwards of one thousand letters from his friends all over the country, testifying to the appreciation in which he was held, and that many of a humbler station in life felt moved to write and express their sorrow, speaks eloquently as to what manner of man was this.

He was born in 1887, and during his education at Aysgarth School and Charterhouse his natural inclinations and appreciation for matters associated with art showed themselves, and on deciding upon architecture for a profession he entered the office of Messrs. Cackett & Burns Dick, and for five years of pupilage industriously pursued his studies. Though accomplished in outdoor sports, he always succeeded in maintaining a good position in the professional classes he attended, and was successful in his sketching, measured drawing, and essay work. He was elected an Associate in 1909, but shortly after, much to the regret of all associated with him in the office, he left Messrs. Cackett & Burns Dick to join his father's firm, though he always kept in affectionate touch with matters architectural, and the close friendly relations with his former principals continued unbroken.

He received his commission in the 6th Battalion Northumberland Fusiliers in 1904, and on mobilisation enthusiastically devoted his whole time to the corps. He left for the front on 20th April, and, as stated in the Record of Honour in the JOURNAL of 22nd May, was killed whilst gallantly leading his men, with a total disregard for himself, on 26th April, near Ypres; his younger and only brother, Captain Howard Hunter, and just such another as himself, falling in the same engagement.

He was affianced to Miss Dorothy Angus, daughter of Colonel Angus, C.B., D.L.

If Architecture has not suffered by his loss, the Institute has at least been deprived of the ennobling influence of his moral worth, and the nation a son worthy of its greatness. She has many such, and so long as their spirit endures and is fanned into increasing volume by their willing self-sacrifice, her greatness will never wane.

Dulce et decorum est pro patria mori.

JAS. T. CACKETT [F.]

R. BURNS DICK [F.]

OBITUARY.

John Macvicar Anderson, Past President.

At the moment of going to press the death is announced of Mr. John Macvicar Anderson, Hon. Secretary of the Institute from 1881 to 1889, and President from 1891 to 1894. He was in his 80th year, and had been a member of the Institute for over fifty years. He had taken from the first a great interest

in architectural education, and in 1905 placed at the disposal of the Council for educational purposes his entire holding in the Architectural Union Company, amounting to twenty-four shares of £10 each, and yielding about 7 per cent. He was one of the Trustees and a generous benefactor of the Architects' Benevolent Society. His portrait, an admirable likeness, painted by the late Charles Furse, hangs in the Institute Common Room.

Charles Edward Mallows [F.]

The news of the death of Mr. C. E. Mallows, which occurred suddenly from heart failure, without any previous indisposition, on the 3rd inst., came as a great shock to those who had seen him apparently in good health but a few hours before. Mr. E. Guy Dawber, at the General Meeting on Monday, made feeling reference to the sad event, and paid a tribute of respect and admiration for the high personal qualities and attainments of the late Fellow. A biographical notice is in preparation for the next issue of the JOURNAL.

William Leonard Boghurst Leech [A.]

Leonard Leech, whose death was recorded in the last issue of the JOURNAL, was the only son of the late Dr. A. H. Leech, of Broseley, Shropshire, and of Mrs. Leech, of 28 Egerton Gardens, Ealing, and was educated at Epsom College.

The sad news came as a grievous blow to all who knew him, more especially because of his lovable disposition and his keen enthusiasm for his chosen profession. It was characteristic of him and of his name—Leonard—that he should have persevered until he ultimately succeeded in enlisting notwithstanding that he had been rejected more than once owing to defective eyesight. The wounds he had received in the jaw (on 9th April at Hill 60) were of a very severe nature, but though he had endured the most intense pain and had been through two serious operations, the poor fellow bore his sufferings patiently and without a murmur. He was in a hospital at Boulogne for a fortnight before he was taken to H.M. Queen Mary's Hospital at Westcliff on 23rd April, and his death on 15th May was the first to occur there.

By his hard and conscientious work he had been progressing by leaps and bounds during the last year or two, his transition from student-work to that of the mature architect with a real and growing knowledge of architecture being quite remarkable. Members of the Institute who can recall his painstaking and accurate set of measured drawings of Southwell Minster will best realise how promising a career has been cut short by his untimely death at the age of twenty-seven.

His funeral took place, with full military honours, on 19th May, in lovely spring sunshine, in the quietude of his native land, at Sutton Cemetery, near Southend, in the presence of his mother and sister and other sorrowing relatives and friends. In the words of his mother, "it's such a beautiful, noble, and good life

gone; but he has done his duty for his country, and doubtless there is a rich reward for him."

BASIL OLIVER [A.].

Mrs. Leech writes: "It may interest you to know that my son offered himself five times, at different recruiting offices, and each time was refused because he wore glasses. During all the waiting time he did night duty as Special Constable. He was at last accepted on the 9th November by the Queen Victoria Rifles, and did strenuous training at Crowborough Camp. He refused corporal's stripes as it would have kept him longer in England, and 26th March saw him on active service with his regiment in Flanders. . . . He was left fatherless when seven years old, and has done well all through his life, and been a splendid son and brother."

THE EXAMINATIONS.

The Final: Designs approved.

The Board of Architectural Education announce that the designs submitted by the following Students have been approved:—

SUBJECT XX.

(a) FAÇADE FOR AN IMPORTANT FIRM OF FINE ART PUBLISHERS.

Brandon: C. J.	George: B.	Owen: A. T.
Bruce: J. C. C.	Graham: R. D.	Pennington: W. F.
Carey: R. W.	Hemm: G.	Rayson: T.
Cottingham: G. R.	Hull: V.	Reixa: F.
Day: N. F. C.	Hutton: L. D. H.	Stevens: F. J.
Duncan: R. A.	Jackman: F.	Tranmer: F.
Evans: T. C.	Kellock: A. D.	Tubbs: G. B.
Foot: A. A.	Lyne: D. R.	Wilson: J.
Foulkes: S. C.	Mungia: G.	Woodhouse: F. P. M.

(b) DETACHED SWIMMING BATH FOR A BOYS' PUBLIC SCHOOL.

Hall: R. B.	Roberts: E. W.
Holden: W.	Tanner: A. S.
Knight: S.	Vinden: G.
Middleton: V.	

MINUTES. XV.

At the Fifteenth General Meeting (Business) of the Session 1914-15, held Monday, 7th June 1915, at 8 p.m.—Present: Mr. H. V. Lancaster, *Vice-President*, in the Chair; 15 Fellows (including 10 Members of the Council) and 8 Associates (including 1 Member of the Council)—the Minutes of the Meeting held 17th May, having been published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary announced that Lieutenant Laurence Kingston Adams [*Associate*, 1914], Lieutenant Christopher René Harrison [*Licentiate*, 1911], and Lieutenant Thomas Edwin Turner [*Student*, 1913], serving with the British Expeditionary Force in Flanders, had been killed, or had died of wounds received in action, and it was Resolved that the Institute record its deep sense of sorrow for the loss of these young members, who had given their lives for their country, and that a message of sympathy and condolence be conveyed on behalf of the Institute to their nearest relatives.

The Hon. Secretary also announced the decease of Charles Edward Mallows, *Fellow*, elected 1900, a past member of the Council and of the Prizes and Studentships and Literature Committees; and of Robert Fellowes Chisholm, *Fellow*, elected 1871, who had contributed valuable Papers to the

Institute TRANSACTIONS, and it was resolved that a message of the Institute's sympathy and condolence be conveyed to the relatives of the late esteemed members.

The decease was also announced of William Lovell Mason, *Fellow*, elected 1896, and of Henry William Burton and Everard William Leeson, *Licentiates*.

The Secretary having read the reports of the Scrutineers appointed to direct the election of the Officers, Council, and Standing Committees for the year of office 1915-16, the Chairman declared the members duly elected to the respective offices, and, on the motion of the Chairman, a hearty vote of thanks was passed to the Scrutineers for their labours in connection with the elections.

The Meeting, following the precedent of last year, resolved that the names of unsuccessful candidates in the Annual Elections should be published, but not the number of votes polled.

The following candidates for membership were elected by show of hands under By-law 10:—

AS FELLOWS (17).

ATKINSON: Robert [A. 1910, *Tile Prizeman* 1905].
 GILL: Charles Lovett [A. 1905, *Ashpitel Prizeman* 1904].
 HARRIS: Charles William [A. 1896] (Liverpool).
 HOBSON: Laurence [A. 1898, *Arthur Cotes Prizeman* 1897] (Liverpool).
 HUTTON: David Bateman [A. 1906] (Glasgow).
 NAYLOR: James John Sydney [A. 1905].
 OMAN: William Campbell [A. 1902] (Singapore).
 PECK: Frank [A. 1898].
 PORTER: Horatio, M.A. Cantab. [A. 1891].
 SAUL: Henry Albert [A. 1892].
 Together with the following *Licentiates*, who have passed the Examination qualifying for candidature as Fellows:—
 ALLAN: John Alexander Ogg [*Godwin Bursar* 1909, *Inst. Medallist (Essays)* 1910] (Aberdeen).
 BAILY: Harold.
 CARLESS: William Edward (Montreal).
 COOKE: Samuel Nathaniel (Birmingham).
 STUART: John (York).
 SWAN: James Alfred (Birmingham).
 TAYLOR: Thomas Lumsden (Glasgow).

AS ASSOCIATES (20).

ABERCROMBIE: Leslie Patrick, M.A. Liverpool [S. 1900] (Liverpool).
 BARROW: Thomas Henry [S. 1908].
 BASTA: Habib, A.M.Inst.C.E., A.M.I.Mech.E. [*Special Examination*].
 BHOWNAGGREG: Naserwanji Mancherji Merwanji [S. 1911].
 BOTHWELL: Edwin Forbes [S. 1911] (Hong Kong).
 CARMICHAEL: David Arthur [S. 1914] (Greenock).
 DAVISON: William Robert [S. 1910] (Morpeth).
 FRANCIS: George Eric [S. 1912, *Ashpitel Prizeman* 1914].
 GEORGE: Thomas [S. 1913] (Swindon).
 GRIBBON: Blakeley Rinder [S. 1904] (Leeds).
 JENKINS: Trevellyn Phillip [S. 1911] (Swansea).
 JEPSON: Henry Norman [S. 1910].
 MARTYN: Egerton Alwyn Lawer [S. 1912] (Redruth).
 MEREDITH: Edward [S. 1912] (Newbridge-on-Wye).
 OWEN: Albert Henry [S. 1909].
 SOPER: Stanley George [S. 1912].
 THOMPSON: James Osbert [S. 1912; *Distinction in Thesis*] (Sheffield).
 TOONE: John Algernon Edmund [S. 1908] (Melbourne).
 TRISCOTT: Harris Stephens [S. 1911].
 WHITELEY: Charles Taylor, P.A.S.I. [S. 1907] (Bradford).

The Secretary announced that at the Meeting of the Council held that afternoon it had been decided to delete the names of alien enemy members from the R.I.B.A. KALENDAR.

The Hon. Secretary announced the presentation of a number of books to the Library, and a cordial vote of thanks was passed to the donors.

The proceedings closed and the Meeting separated at 8.35 p.m.

OFFICE OF THE SECRETARY

1915

THE SECRETARY

OF THE

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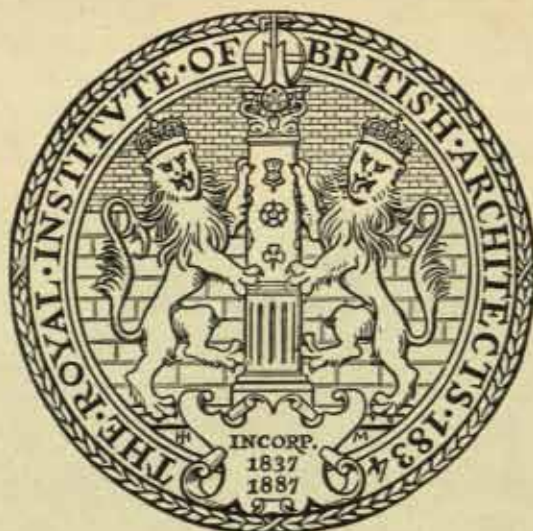
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John F. Darling
Frank Darling

FRANK DARLING (Toronto),
Fellow of the Royal Institute of British Architects
ROYAL GOLD MEDALLIST 1915.



THE ROYAL GOLD MEDAL.

Presentation to Mr. FRANK DARLING [F.], of Toronto, at the General Meeting,
Monday, 21st June, 1915.

ADDRESS BY MR. ERNEST NEWTON, A.R.A., *President*.

LADIES AND GENTLEMEN,—We are met together to-night to present the Royal Gold Medal to Mr. Frank Darling. Unfortunately, owing to circumstances over which we have not yet got quite complete control, Mr. Darling is not able to come from Canada to receive this Medal in person; but Sir George Perley, the High Commissioner for Canada, has very kindly consented to represent him and will read the modest and appreciative message which Mr. Darling has cabled to us.

I have been at many of the meetings when the Gold Medal has been presented, and I remember that on these occasions the President's Address was always brief and served merely to introduce the Gold Medallist, who is naturally the hero of the evening. I must, therefore, curb my well-known inclination to indulge in long speeches and addresses. I will not, then, weary you with the history of the Gold Medal, or give you a list of the distinguished men to whom it has been awarded, although a perusal of the list is in itself an inspiration, and, taking almost any name at hazard, it would not be difficult to give an account of one of the many art movements of modern times with which that name has been especially connected, but I can say, without fear of contradiction, that its bestowal is looked upon as the highest architectural honour that this country has it in its power to confer.

The Council of the Royal Institute examines very carefully the claims of the eminent men whose position would seem to entitle them to this distinction, and having made their selection they submit the name they propose to His Majesty for approval.

The first Medal was presented in 1848 to Mr. Charles Robert Cockerell, and the recipient last year was Monsieur Jean Louis Pascal. On this list will be found the names of distinguished men of many countries; but there is one thing that is new in connection with the presentation to-night, and that is, that for the first time in its history the Gold Medal is presented, by the unanimous vote of the Council and members of the Royal Institute of British Architects, and the approval of His Majesty, to a Canadian architect. I hope that in the future it may be presented to eminent men of the other great overseas Dominions and Commonwealths.

Mr. Darling was born in Ontario in 1850 and had his first introduction to architecture in a Canadian office. At the age of 20 he came to England and worked under Mr. Street and Sir Arthur Blomfield. He began his career as an architect in Canada in 1875. His works are known to most of us only through the medium of drawings and photographs ; some of us have had the privilege of seeing the actual



THE CANADIAN BANK OF COMMERCE, MONTREAL.

buildings ; I regret that I am not of the number. I have many times been tempted to visit Canada, but there has been between me and the sea a life-long antagonism. I have fought often, but have always been vanquished, and I have finally decided to accept defeat and not trust myself to its treacherous keeping.

On the walls are hung photographs of many of Mr. Darling's works. The following list will give you some idea of the amount of work which has passed through his hands : —

TORONTO.—General Hospital, Canadian Pacific Railway Building, Royal Ontario Museum, Buildings for Toronto University, Bank of Nova Scotia Office, Dominion Bank Office, Union Bank Office, Standard Bank Office, many private houses.

WINNIPEG.—General Post Office, Grain Exchange, Union Bank, Nova Scotia Bank, Imperial Bank.



BANKING ROOM, DOMINION BANK HEAD OFFICE, TORONTO.

MONTREAL.—Sun Life Office.

He has also built an office for the Canadian Bank of Commerce in almost every important city in Canada.

Well, Ladies and Gentlemen, it is, I think, a peculiarly happy coincidence that we are here doing honour to a great Canadian artist, one of the leaders in the arts of peace, while his gallant fellow-countrymen on the battlefields of Europe are showing their magnificent qualities in the arts of war.

We are only allowed glimpses now and then of the noble deeds performed by *all* the splendid troops of the Empire, but it seemed as if the history of the gallant stand of the Canadians on that memorable day not many weeks ago, could not be held in the iron grip of the Censor, but *had* to be told.

You will, I hope, forgive me for talking about war rather than about architecture, but, try as we will, this War is so vast and so dominating, that it is impossible to speak on any subject without referring to it. It is, too, a war in which we are all so nearly concerned. The marvellous response to the call to arms is the most wonderful and inspiring page in the history of the Empire. We have had our volunteers before in hundreds and thousands, but never in thousands and millions. Now we have the best of the whole manhood of the Empire; men of the Mother Country, of Canada, Australia, New Zealand, throwing aside all thoughts of material prospects to fight shoulder to shoulder for liberty and freedom.



CONVOCAATION HALL, UNIVERSITY OF TORONTO.

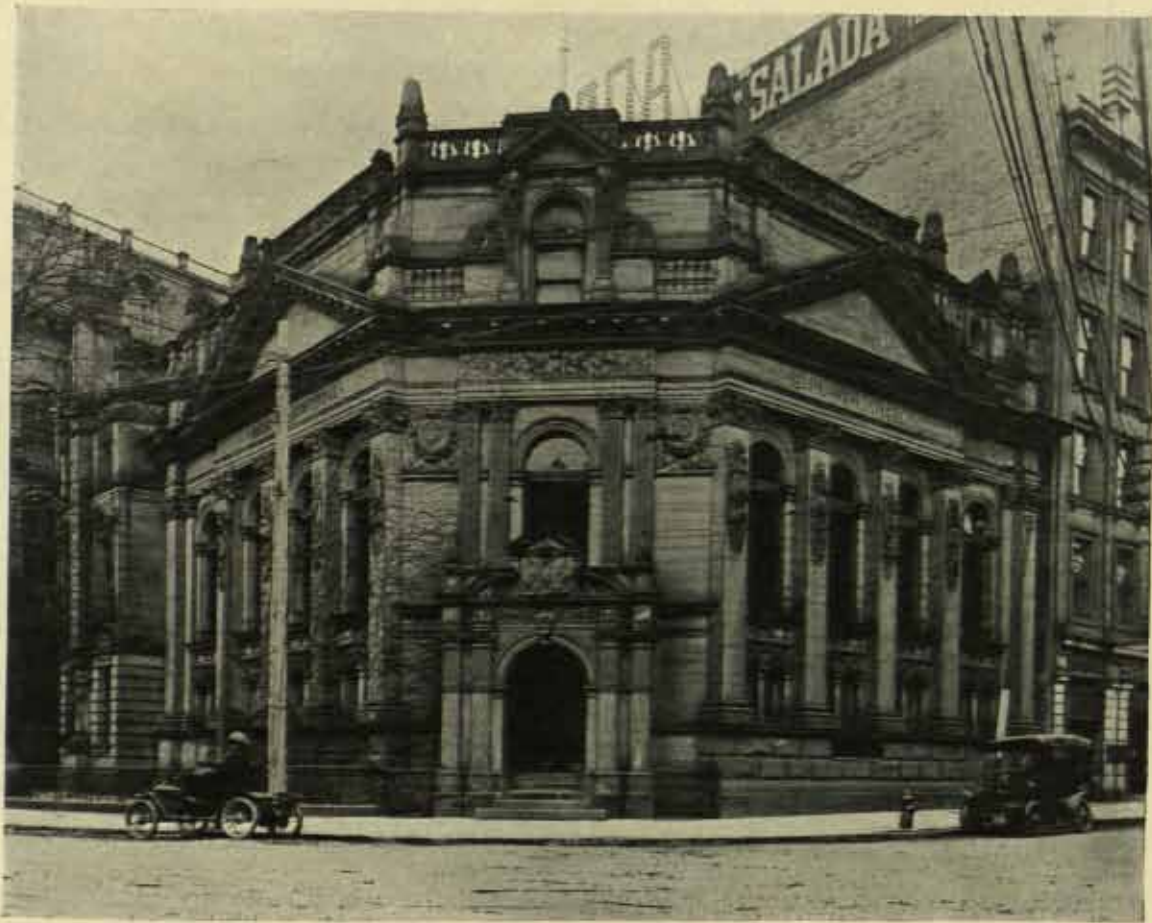
The Indian Empire has sent men, and Indian princes have offered their services and contributed in countless other ways. South Africa, although engaged in fighting for the unity of the Empire in her own country, is yet anxious to find more men to help. Every rank, every trade and profession are represented. It is an amazing spectacle, but we are too near to it to realise fully its magnitude.

Need we, with all this evidence before us of courage and manliness, have any fear as to the future of our great Empire? Will not the memory of great deeds bravely performed bind us together and make us more and more determined to fight for the freedom of all peoples to develop what is best in them, in their own way, freed from the perpetual menace of a nation whose aim is the domination of

the world, the destruction of the gentler side of human life, and the substitution, by force, of a desolating materialism ?

Sir George Perley, in presenting this Medal to you as representing Mr. Frank Darling, will you, when the time comes for handing it to him, express to him our admiration for his work and our keen interest in the great Dominion which counts him as one of her distinguished sons ; and will you also tell him that in honouring him with this distinction we are also honoured by the addition of his name to our roll.

SIR GEORGE PERLEY, K.C.M.G., High Commissioner in London for the Dominion of Canada, having accepted the Medal on behalf of Mr. Darling, said : Mr. President, Ladies and Gentlemen, it



BANK OF MONTREAL, TORONTO.

is a great pleasure and honour for me as well to receive this evening the Royal Gold Medal which, on the recommendation of your Institute, has been given by his Gracious Majesty the King to my friend Mr. Frank Darling, through whom an honour has come to the whole Dominion of Canada. I wish to read to you a cablegram which has come from Mr. Darling, because he has found it impossible to be here himself. I regret exceedingly that he could not be here, for I know you would like him when you saw him, and I am sure that he would be more than delighted to be able to receive this distinguished honour into his own hands.

The cable which has come is as follows :—

CABLEGRAM FROM MR. FRANK DARLING.

4th June 1915.

To the President and Council of the Royal Institute of British Architects,—

GENTLEMEN,—I was more than surprised when your Secretary's letter arrived informing me that the Council of the R.I.B.A. had nominated me for the Royal Gold Medal for 1915. The bestowal of such a signal honour, unlooked for and totally unexpected, leaves me at a loss to express adequately my thanks and appreciation of the compliment paid me, and, through me, to the profession of which I am a member and to the country of which I am proud to be a citizen.

I am a Canadian born and bred, and an Imperialist from the bottom of my heart. I welcome



MUTUAL LIFE ASSURANCE COMPANY OF CANADA, WATERLOO, ONTARIO.

everything that tends to bring more closely together the Mother Country and the great Dominions beyond the Seas, and can think of nothing better calculated to help bring about in its own way such a desirable result than this gracious action on the part of the Royal Institute of British Architects. That a body of such eminence should have singled out Canada as the first of the Overseas Dominions to receive the Gold Medal will, I know, be valued by the Architects of this country as a very great honour paid to a profession not hitherto overburdened with public recognition, though striving manfully to uphold, often against very adverse conditions, the standing and dignity of the profession.

As to myself, you value, I fear, too highly whatever I may have done in this direction. As for my architectural work, surrounded as you are by the masterpieces of our art, I have to thank you very cordially for the kind and lenient eyes with which you have looked upon it. You do me, gentlemen, far too much honour.

I wish very much I could have seen my way clear to have gone across and received the Medal in person. In not doing so I trust you will acquit me of any discourtesy, but, as you all know only too well, things are not normal and the world is out of gear, and I find it quite impossible to manage it.

Again I have to thank you for your kindness in electing me as a Fellow of the Institute, an honour I deeply appreciate and highly value. To be a member of the Institute is a distinction I have long coveted.

Yours very faithfully,

FRANK DARLING.

Mr. President (continued Sir George Perley), I wish to say that Mr. Darling has not been in robust health for several years, and I think his absence to-night is really largely due to that reason.



PRIVATE HOUSE, TORONTO.

You, Sir, have told us of the achievements of Mr. Frank Darling, and the photographs on the walls show conclusively the good work he has done. As representing him, it is not for me to speak of his life and of his work, but I may be permitted to say at this time that he has been known for years throughout Canada as one of our most eminent architects, and I believe him to be well worthy of the great honour which you have bestowed upon him. I notice in the copy which has been given to me of your Rules and Regulations that the Royal Gold Medal is conferred annually on some distinguished architect who has designed or executed a building of high merit. Now, Sir, this applies properly to Mr. Darling; and I would go further and say that some of his work has been very brilliant. Ottawa is the seat of the Canadian Government, and our Houses of Parliament are situated there. Across the Ottawa river is the manufacturing city of Hull. It has for a long time been the wish of many of us living in Ottawa to have a well-considered plan to work to, as years go on; and by arrangement with the Councils of these

two cities the Dominion Government appointed, two years ago, a small Commission to prepare a plan of these cities and their surroundings, which we hope will be found worthy of the Capital of the great Dominion of Canada. This plan will be used in improving and beautifying the city as it grows, and will prevent the difficulties which arise in every city where there is no such plan. Two years ago, at the request of the Prime Minister, Sir Robert Borden, I undertook to arrange for this Commission; and it was my privilege at that time to offer a place on this very small Commission to Mr. Frank Darling, of Toronto, as representing the profession of architecture. I mention this, Sir, merely to show that your opinion of Mr. Frank Darling's ability is shared by those of us at home who know him best. This, Sir, as you have said, is the first time that this signal honour has gone to any of the Overseas Dominions—and I say advisedly that it is a signal honour to be received from such an Institute as this, the oldest and most influential of any association of architects in the world. We Canadians appreciate this kindly recognition of the art of architecture in our Overseas Dominions. It is a compliment to the profession, and is a compliment to the Dominion of Canada—in fact, to the whole of Greater Britain, of which Canada is proud to be a part. In conclusion, I can only say that you have chosen a proper person to receive your Gold Medal, because I know that he has always worthily upheld the dignity of your profession. I receive this Gold Medal on his behalf with much pleasure, and I shall transmit it to him with the kind words with which you closed your address, Mr. President; and, on his behalf, I can only add that we appreciate exceedingly your kindly recognition.

MR. REGINALD BLOMFIELD, R.A., *Past President, Royal Gold Medallist 1913*: Mr. President, Ladies and Gentlemen, I have the honour of proposing a vote of thanks to Sir George Perley, who has been so good as to come here to-night. We should have liked to have met our old friend Mr. Darling, and renewed our acquaintance with a very genial and humorous personality. I only learned from our President to-night, for the first time, that Mr. Darling was a pupil of that well-known architect, Mr. George Edmund Street, and of that excellent man, my uncle, Sir Arthur Blomfield. The circumstances of Mr. Darling's absence has this advantage, that Sir George Perley was able to say several things about him which Mr. Darling could not have said for himself. And, also, we have the honour of seeing Sir George Perley present with us to-night, and of making in some degree acquaintance with him. I need not say anything about the personal qualities of Sir George, for they are well known: his energy, his ability, his force of character—qualities that have brought him to the distinguished position which he now occupies. I also gather from what Sir George has just said that he has himself taken a very active part in the promotion of the art in which we are most interested. But, ladies and gentlemen, while we welcome Sir George here to-night for himself, we also welcome him as the representative of that great Dominion across the seas. All of us in the Old Country have recognised for many years the extraordinary capacity and force of character, the ability, the quickness to seize the essential point, shown by the Canadian people; the amazing progress they have made in all directions; their courage, their intelligence, their readiness to learn where their own experience was wanting. And we have an example of these qualities in the fact to which Sir George referred, this matter of the town planning of Ottawa, and the great competition for the new Parliament House. There the Canadian Government showed that, as in everything they do, they are searching for big ideals; they did not limit themselves to any local considerations; they threw it open. Of course we know there are great opportunities in front of Canada in the development of architecture, and we all here shall watch it with the keenest sympathy. But I must say I feel with our President to-night that at this moment, with sterner issues in front of us, the Arts recede into the background. We citizens of the British Empire are all of us face to face with the gravest peril that we have ever been exposed to in the history of our race. I need not dwell on our losses and our sufferings, and the greater losses and the greater sufferings that we have yet to contemplate; they are known to us all. But in this terrible time there is one great thing we have done: we have learned to know ourselves, and we have learned to know each other. I think that in the whole history of the British Empire there has

been nothing finer than the response of the children to the needs of the Mother Country. I feel, Sir, so much in sympathy with what you said, that I am afraid I shall be using some of your terms, but I hope you will excuse me. I think there is nothing finer than the rally of Canada, of Australia, and of New Zealand, of South Africa, of India, and every quarter of the globe which flies the Union Jack ; and there is no more imperishable exploit in this war than the stand of the Canadians at Neuve Chapelle, and the landing of the Australians and New Zealanders at Gallipoli. These are things that bind people together for eternity. We may, when peace returns, have our little misunderstandings : when things go easily, relations often quarrel ; but we shall never forget that we all stood shoulder to shoulder in the crisis of our fortunes. There is one particular thing which has occurred to me in regard to Canada : that if the majority of the population of that great Dominion are our own immediate kinsmen, the other part of them descend directly from our splendid Ally, the heroic and unconquerable French. This Gold Medal that has been presented by his Majesty the King on the recommendation of this Institute is not only a mark of our recognition of the admirable quality of Mr. Frank Darling's work ; it is also a symbol of the unity of the British Empire. Mr. Frank Darling, as the President pointed out, is the first of our architects from across the seas who has received this Gold Medal ; I feel very confident that he will not be the last. I have very great pleasure in proposing a unanimous vote of thanks to Sir George Perley for coming here to-night, for representing Mr. Frank Darling, and also for representing our kinsmen across the seas, now dearer to us than ever.

THE HON. WILLIAM PHILIP SCHREINER, C.M.G., High Commissioner in London for South Africa, in seconding the vote of thanks, said : Mr. President, Ladies and Gentlemen, I think, after listening to the eloquent and interesting speech which we have just heard from Mr. Blomfield, that there is very little for me to say by way of seconding the motion—except, perhaps, to say that those are my sentiments. They are so admirably expressed that I might sit down perhaps with saying that. But I think my friend Sir George Perley deserves from me a special reference as the youngest in London of the High Commissioners of Dominions. We are all glad to know Sir George Perley as a colleague. We are four of us here, and I would say that an aspect of the present critical time—and I think I may speak for all of us—is that we are brought very much more closely together. That is something which may be of interest even to you in this country. There are many ways in which we help each other, and many ways in which we can help each other. We can, in sympathy towards each other and towards the needs of our respective Dominions, do very much, in our small sphere here, to bring closer together the bonds which unite the Empire, bonds which I am convinced the War, contrary to the ill-formed opinion to the contrary, will only strengthen and draw more really tight, because of the trouble and adversity through which, in our respective spheres, we are all passing. I share very much in those expressions which have been uttered relative to the grand performances of the Canadian forces and the Australian and New Zealand forces on this side of the water. It is very natural that we should all of us be equally proud of those performances ; and I do feel that the fact that the work of my fellow-countrymen in South Africa is not done so much in the eye of day is the only reason why it is not more noted than it perhaps deserves to be. It has been a very gallant endurance. We have not, up to date, been able to come exactly to close grips with the antagonist in any great measure. The returns of casualties alone may seem very small when they are perused in association with that sad but great roll of honour of which the people of Canada, New Zealand, and Australia may well be proud. But although death has not been so rife, there has been a great deal of daring and endurance going on in a country which, let me remind you, is about as large as Germany in Europe, and a country in which the needs of life have to be carried with you almost entirely ; in which the water, small in quantity when you come to it, has to be suspected because it is probably poisoned ; and in which you have to be accustomed to a diet of sand and flies, mixed with bully-beef—when you can get the bully-beef, which is only now and then. I can assure you that our men do not complain of what they are going through, and of the many long marches and the many hardships ; they are proud and happy to do their best.

What a good many probably do grumble at is, that they cannot get going in another way, in the manner they anticipated. But even that, perhaps, may be satisfied before very long. We do know this, and I have said it on another occasion, that it is not a completed conquest when you have captured the capital of any country; when you capture that, you may or may not have completed the conquest of the country. We have had experiences of that even in South Africa, and it may still be a long road to Tipperary, even after you have captured Dublin. I should say we may hope, before long—I should put it as within another fortnight—to have news of achievements which will be more actually, to my thinking, South African than carrying out the brilliant feat of capturing Wyndhoek without firing a shot. I do not belittle that achievement, I extol it; it is the result of good generalship to have secured that position, where we anticipated a bigger contest, without having a pitched battle. I do not feel inclined to predict, but I should not be surprised if there was something in the nature of a very big scrap before long, because there is a large force of the enemy in that country which is quite unaccounted for. I have only thrown that in because the mover of the resolution has left me so little to say about my friend Sir George Perley that I have had to diverge on to another line, and I am extremely glad to have been present on this occasion and to share in the hospitality of your Institute. It is indeed an honour that one of the sons of Greater Britain has this night achieved. I do not think there is a single small thought in connection with that; we are as proud of the success of Mr. Frank Darling as if he had been a South African. We are grateful for it, and I assure you we are grateful in the true sense of the term, for it has been well said that gratitude is a lively sense of favours to come. And I may say this, Sir, that the art which you represent in this great country is an art which is eminently necessary in the younger countries; it might even be said it is far more important in the younger countries that there should be great attention paid to buildings than in the older country of England, where you have so much beauty already established that you architectural artists might almost all emigrate in order to make more handsome the buildings where we dwell. But amongst us in every country there are those who lift up the lamp and keep it burning. And we have in South Africa—and there are representatives of South Africa not far from me—those who deserve in the highest degree the encomiums which could be passed upon the greatest artists in architecture. I associate myself most heartily with the vote of thanks to Sir George Perley; and I hope this presentation of His Majesty's Medal outside the limits of the United Kingdom may be the forerunner of similar occasions when, on their merits, men of the Empire may show themselves nearly, if not quite, as good as those of this great little island.

SIR GEORGE PERLEY, responding to the vote, which was carried by acclamation: Mr. President, Ladies, and Gentlemen, it is unnecessary for me to say how thoroughly I appreciate the way in which this vote of thanks has been moved and seconded, and its flattering reception by you. I take it as a compliment to the Dominion of Canada, rather than to myself personally, and as such I thank you most heartily. It is a great pleasure to come to a bountiful repast such as we have had this evening, and to a meeting of this kind in the midst of this terrible war, to give us a chance to think of some other things. Your influential Institute has done a great deal to build up the profession of architecture, and to make it one that produces the best results. But I find, on enquiry, that it is doing its duty in other directions, and I am informed that 1,500 architects are with the Colours. To my mind, those figures, for a profession of limited numbers, speak volumes. Now, Sir, Mr. Blomfield and Mr. Schreiner spoke of the art of architecture in the Dominions. We are doing our best everywhere. It is true we hope, before long, to have some splendid new additional Parliament Buildings at Ottawa. For that purpose we called for competitive plans last year from the whole of the British Empire. And the Dominion Government—of which I am here as a member—under Sir Robert Borden, has the intention, the hope, of putting up some new buildings in Ottawa which will be as fine as—I can hardly say finer than—those which we have at present, and which those of you who have visited Canada I am sure have enjoyed seeing. It is true that in our Dominions over-seas we are occupied in developing our great natural resources, and doing our best to make those Dominions into good British countries; that is the work

which we have in hand at present : so that we are not able to give as much time to arts like architecture as we hope to do in the future. But I want to say to you, Mr. President, that in our material work of prosperity we do not forget altogether other and higher things. We have in Canada—and, I take it, in all the other Dominions also—a splendid system of education, schools and colleges of the best. And I wish to tell you that, travelling through the Canadian North-West, for instance, in a new country, where towns grow up like mushrooms in a night almost, one of the things which struck me most forcibly was that the people there think of the education of their children from the very beginning. And in those little towns, one of the first buildings of any size that they erect is a schoolhouse. In other words, although we are occupied in developing our natural resources, in making a new country and a new nation, at the same time we do not forget these other matters, and our children are taught that there are greater and higher things than mere money-making. The result of this, Sir, has been shown conclusively in this war, because all the Dominions over-seas have come forward to do their share in fighting the common enemy. We are of the British Empire, we are part of it ; we are in this war because the British Empire is attacked. We have not come to render assistance to the Mother Country. She needs no assistance ; but we want to do our fair share in fighting our own battles. Therefore we are here ; therefore we are sending our men, the best that we have, to fight the common enemy, for the purpose of preserving and handing down to our children the rights, the liberties and the privileges which have been handed on to us as the common heritage of all Anglo-Saxon peoples. We realise, Mr. President, that these are all at stake. We have no love for German militarism, nor do we propose to come under its authority, either now or at any future time. In this struggle, Sir, the two races in Canada, the two pioneer races with which the Dominion of Canada is peopled, have joined hands under the Union Jack to fight with you ; and we shall keep that fight up, Sir, until the enemy is defeated. All sections of the Empire have done well, but I wish to say, with reference to South Africa, that it is true, as Mr. Schreiner has said, that their work is not in evidence in the papers as is the work of the soldiers from other parts of the Empire ; but they have got the harder battle, I take it ; and I believe that in the history of this war the figure of Louis Botha will stand as one of the most heroic of them all. (Cheers.) In conclusion, let me say, as Mr. Blomfield has already said, that it is most appropriate that this Medal should go over-seas at this particular time. We accept it as another proof that we are all united, and are becoming a closer family than anyone would have expected twelve months ago. Out of this terrible war, I take it, good will come, for the Kaiser is helping to consolidate the British Empire. (Cheers.)

The Right Hon. Earl Grey, formerly Governor-General and Commander-in-Chief of Canada, who had accepted the Council's invitation to attend the Meeting and receive the Medal on Mr. Darling's behalf, was unable to be present, and sent the following letter, addressed to the President :—

Howick, Lesbury, Northumberland : 18th June 1915.

DEAR SIR,—I deeply regret that I am not well enough to enable me to keep my engagement with you on June 21st. I greatly appreciated the honour conferred upon me by the Royal Institute of Architects in inviting me to make the presentation to Mr. Darling of the Royal Gold Medal for the promotion of architecture which has been awarded to him by the order of His Majesty.

It was with a feeling of real and peculiar pleasure that I learnt so high a distinction had been won by a Canadian, and I had looked forward to being the privileged medium through whom the envied recognition of the Sovereign should be bestowed upon a gifted son of Canada, whose achievements have won distinction for the Dominion as well as honour for himself.

Regretting that I cannot attend at the presentation ceremony on Monday next, I remain, with an expression of my high respect for the Royal Institute of British Architects,

Yours very sincerely,
GREY.

JOHN MACVICAR ANDERSON:

AN APPRECIATION.

In the late J. Macvicar Anderson the Institute has lost one of its oldest and staunchest members. Born in 1834, elected an Associate in 1864, and Fellow four years later, he came on to the Council in 1874, and retired after his Presidentship in 1894.

Of the members on the Council when Macvicar Anderson joined none now survive. Sir Gilbert Scott was President; H. Currey, John Gibson and G. Vulliamy were Vice-Presidents; and F. P. Cockerell Honorary Secretary. In 1881 he was himself elected Honorary Secretary, an office he held to the great advantage of the Institute until 1889. He made an ideal Honorary Secretary—conciliatory, firm, punctual and accessible, he soon won the respect and confidence of all; during his term of office he reconstructed the upper portion of the Institute premises and designed the Meeting Room (now a Reading Room) on the first floor, one of the pleasantest rooms for the purpose imaginable, and for his services he declined to receive any remuneration.

During this time he supported the new Charter giving increased power to the Associates; he also strongly supported Mr. Arthur Cates in his strenuous battles for a compulsory examination for the Associateship, and vigorously opposed suggestions for the statutory registration of members of the profession. In the controversy of "Architecture, a Profession or an Art" he was fond of saying Architecture is a Profession "and an Art," not "or an Art." He held the highest ideals for his Profession and for the Art of Architecture, and acted up to them without fear and without reproach. He was entirely opposed to the principle of competition, and considered it lowering and degrading to the Art; he was himself invited by the Government to submit a design in the limited competition for the extension of the South Kensington Museum, but declined on principle, though he told me at the time he realised that this would probably shut him out from similar Government work in the future—as in fact I think it did; but having once marked out a course for himself as the right one, he never wavered, he was a most dependable man. Nevertheless he acted as Assessor in several important competitions.

On his resignation as Honorary Secretary in 1889 he became a Vice-President, and paid me the compliment of nominating me as Honorary Secretary, advising me in his kindly, almost fatherly way, to accept it, which I did.

About this time he warmly supported the then President, Alfred Waterhouse, in his attempt to purchase the galleries of 9 Conduit Street, and nearly succeeded, but the scheme was in the end upset by a few members who thought the Institute could not afford it, and the galleries were let to a firm of auctioneers and estate agents, a mistake that later on cost the Institute many thousands of pounds. The shares

in the Architectural Union Company, which he purchased at the time for the above purpose, he subsequently presented to the Institute for the promotion of architectural education. He always looked forward to the time when the Institute and the Architectural Association might be finally housed under one roof, but this was not to be.

In 1891 he was by general consent elected President, an office he held for three years with great distinction. As was expected of him in this position, he displayed all the rare qualities he possessed; he met the numerous difficulties the Institute encountered with unwavering courage and calm, and by his grasp of facts and details and his clear arrangement of them he infallibly carried the meeting with him. His Addresses were fearless and just; he belonged to no party, and personalities were unknown to him. Though dignified in demeanour, he was naturally a very modest and retiring man, and anything in the nature of advertising he abhorred. He was given to hospitality, and entertained freely in his private house in Stratton Street in a charming and unostentatious way, graciously assisted by Mrs. Anderson and family, and many were the distinguished people in other walks of life to be met there.

He was largely consulted by individual members of the profession on points of professional honour and etiquette, and never failed to hold up a very high standard of conduct to all who came to him, a standard he fully maintained in his own practice, where he was equally trusted by the many clients of high rank amongst whom he practised, and by the great banking and insurance offices of the City who also largely employed him. A list of his buildings, which were many and important, has already been published, and a critical review of them is not within the purview of these few scattered and personal notes, but I may be perhaps permitted to say that his buildings were all marked by care and refinement, and he deviated little from the manner in which he set out, a manner which would certainly have met with more professional recognition had it not been overshadowed at the time by the strong passions and feelings of the Gothic Revivalists of his earlier years. He lived, however, to see the principles of design on which he set out very generally recognised as sound ones. He was the architect of works of such varied character as his own church of S. Columba in Pont Street, Messrs. Coutts' bank, the enlargement of the Junior Carlton Club, of Christie's Auction Room, Powerscourt Castle, and the restoration of the Church of S.-Mary-le-Strand, in which he took much interest, and a great many others which need not be mentioned here.

On his retirement as President his portrait was painted by Charles Furse, who was not well at the time, and required many sittings; when it was finished Mr. Anderson told me he showed it to him, asking his opinion of it, and while he was examining it the painter exclaimed, "Oh, I see you don't like it," and taking up his palette knife, scraped it right down so

that it had to be entirely repainted, a serious tax in sittings to a busy man, but which he uncomplainingly gave. This portrait was oversubscribed for by members of the Institute, a somewhat unusual occurrence, and the balance was expended on a piece of plate with a suitable inscription and informally presented to him at Stratton Street, a little incident that gave him, I think, sincere pleasure.

After his Presidency he still came to the Institute meetings on important occasions, and was ever ready to support his successors in that honourable position; he attended Mr. Blomfield's dinner to the Council so lately as last year, when he told me somewhat pathetically there was hardly anyone there he knew, but he retained his keen interest in the Institute to the end.

Last year he quietly celebrated his golden wedding with his family in Scotland, and passed away quite painlessly after a month's illness on June 9th last in his eighty-first year. He has left behind him a high example of integrity and uprightness. After his own family his great interests, I think, were his Church, of which he was Senior Elder, Architecture and the Institute.

Throughout he wore the white flower of a blameless life, and both in mind and character and personal appearance he was in every way essentially a gentleman. What more can or need be said!

ASTON WEBB [F.].

21st June 1915.

CHARLES EDWARD MALLOWS.

"He worked to the very last—just as he would have wished." This excerpt from a letter that now lies before me has reference to the painfully sudden death of my old friend and fellow-worker, Charles Edward Mallows. That it would have been his earnest desire to fulfil the common destiny of man whilst his great powers of design and draughtsmanship remained unimpaired, whilst his perennially youthful enthusiasm for a beloved art had suffered no diminution from the stress and disappointments incidental to many years of architectural work, and, above all, after his artistic judgment had become thoroughly matured and reliable, those who knew Mallows will readily endorse.

But for these very reasons the death of so great an artist is as serious a loss to the world of art as is the sad and unexpected passing of a charming and magnetic personality to his intimate friends.

In the architectural profession Mallows held, and held rightly, a very prominent position. To his great credit, be it said, the pre-eminence thus attained was due less to the fact that he possessed a natural faculty or genius for his chosen profession than to his inveterate habits of constant study and hard work. And it is a matter of common knowledge in the profession that very few prominent living architects have

been less favoured by fortune, or have received less assistance from extraneous influences exercised on their behalf by highly placed friends.

Articled in 1879 for a term of three years to Mr. F. T. Mercer, architect, of Bedford, at the expiration of his pupilage Mallows worked from 1882-5 in the offices of Mr. H. H. Bridgman, Messrs. Salamans & Wornum, and Messrs. Wallace & Flockhart. He appears to have commenced independent practice in 1886, in which year, in conjunction with Mr. F. W. Lacey [F.], he designed and carried out a considerable amount of work at Brentford and other parts of Middlesex, including a post office, four wayside inns, and several dwelling houses. Prior to the completion of these works Mallows was commissioned by *The Century Magazine* to prepare a series of drawings illustrating the cathedrals of England and France, and from 1886-91, six months of each year were devoted to travelling and sketching in the two countries. Already a prizeman of the Royal Academy, Mallows won in 1889 the Pugin silver medal and travelling studentship of the R.I.B.A., and the brilliant nature of the numerous drawings that resulted from this tour will long be remembered by those who were fortunate enough to see them. If my recollection is reliable, the series included a remarkably fine pencil drawing of the cloisters of Gloucester Cathedral and an equally well rendered pen-and-ink sketch of the tower and spire of Trinity Church, Coventry—one of the well known "three tall spires" of that ancient city. In 1895 Mallows met with his first success in an important competition, when his drawings, prepared in collaboration with Mr. Quick and Messrs. Brewill and Baily, were awarded the first premium in the competition for new municipal buildings at Coventry. So far as I remember the dominant idea embodied in the successful design, and very effectively worked out, was that the extensive group of new buildings proposed to be built should be made to harmonise, architecturally, with the adjoining interesting example, dating from the fourteenth century, of English municipal enterprise known as St. Mary's Hall. During his partnership with Mr. Grocock, of Bedford, the work carried out by the firm included the Y.M.C.A. buildings at Bedford, and as a result of success in the competition for the buildings, new science and art schools at Newark-on-Trent. Messrs. Mallows and Grocock were also the architects of All Saints Schools and St. Andrew's Church, Bedford, and of some alterations, including a new clock tower, to St. Michael's College, Tenbury. In addition, plans were prepared for the improvement of Dalham Hall, Suffolk, and additions carried out at Warwick Castle for the Countess of Warwick.

In 1903 the design submitted by Messrs. Russell, Cooper and Davis, and Mallows received the first premium in the competition for the extension of the Town Hall at Hull, and two or three years later Mallows prepared, in collaboration with Mr. Lacey, an exceedingly well planned and able design, of a moun-

mental character, for an extensive block of municipal buildings, including a large town hall and law courts, for the Corporation of Bournemouth.

Recent domestic work carried out by Mallows was of an extensive and varied character, ranging from large country mansions, such as those at Tirley Garth and Tarporley, Cheshire, to some labourers' cottages at Brickenden, Herts. The architectural attractions of many of his houses, both large and small, are greatly enhanced by the charming treatment of the adjoining grounds and gardens, some of which, owing to the carefully thought out planning and to the care bestowed by the architect upon every detail, are masterly examples of the garden-maker's art. Other picturesque examples of domestic architecture that owe their being to the facile pencil and creative genius of Charles Edward Mallows are to be found in various parts of Norfolk, Kent, Sussex, Berkshire, Hampshire, Cornwall, Cheshire, Somersetshire, Buckinghamshire, and Bedfordshire. Always keenly interested in any scheme for adding to the attractiveness of London, a few years ago, at the suggestion of Mr. Speaight, Mallows prepared a very interesting design for the improvement of St. James's Park and the Horse Guards' Parade, and last year he exhibited at the Royal Academy a fine water-colour drawing, illustrating a well-considered scheme for the embellishment of the south side of the Thames by means of a stately embankment.

Joining the R.I.B.A. as a Fellow in 1900, Mallows became a member of the council a few years later, and he also served for some time on the Prizes and Studentships Registration and other committees. That his literary gifts were of no mean order is shown by the excellent quality of his contributions on architecture, gardening, etc., to the *Studio*, the *Architectural Review*, the *Architects and Builders' Journal*, and other cognate publications; the interest of the literary work being usually greatly increased by well-rendered illustrations drawn by his own hand.

Owing to the hopelessly inadequate and chaotic state of architectural education in this country some thirty years ago, Mallows's powers of design were not fully developed until he had been in practice for a considerable time. Indeed, it is almost impossible for any man to free himself altogether later in life from the pernicious and soul destroying effects of false doctrines inculcated in his youth. "Ruskin says this—therefore it is so," is a sample of the illogical teaching my friend and I received. In the face of disabilities engendered by this brilliant method of instruction is it at all remarkable that the artistic output of those who had the misfortune to acquire their architectural education under it should be uncertain and restricted? Had his intense devotion to art—his genius—his amazing energy—been rightly directed from the very first day he entered an architect's office, who shall say that Mallows would not have gained a reputation world-wide and imperishable?

As it is, his premature death is little short of a disastrous blow to the younger members of the architectural profession, inasmuch as he had the rare gift, as it seemed intuitively, of directing the energies and talents of those who came under his influence into the right channels; of teaching them to use their critical faculties to the avoidance of unprofitable labour and architectural pitfalls, and of enabling them to discriminate between true art and its counterfeit presentment.

ALFRED W. S. CROSS [F.].

REVIEWS.

CITY PLANNING IN AMERICA.

Proceedings of the Sixth National Conference on City Planning, Toronto, 25-27 May 1914. 80. Boston 1914. [University Press, Cambridge, U.S.A.]

The first Town Planning Congress ever held in Canada was opened by H.R.H. the Duke of Connaught in May last year.

Toronto in May 1914 seems now a far cry, but this volume recalls one of the most interesting meetings it has been one's pleasure to attend, though differing in many ways from the point of view of similar conferences here. In Canada they say that any town with over 500 inhabitants calls itself a "city," and nearly every city was represented. True it is that the word "town planning" is hardly understood in America, but "city planning" implies all that we in England mean by town planning, and at the same time somehow conveys that subtle sense of city pride which is becoming so marked a feature of the modern American city.

Conferences are of most service in consolidating and bringing into line the views of those taking part in them, but, apart from this side, they have frequently a real practical value also. The members of the Toronto Conference had mostly travelled long distances and came from all parts of Canada and the States, and Mr. Olmsted, the Chairman, in referring to the stimulating effect of such a conference, told an amusing story of a friend of his who was removing his family goods and livestock to a new establishment at some considerable distance, which, amongst other things, necessitated packing a number of hens into a removal van. As soon as the van started the cackling of the hens made it evident that the journey stimulated very considerably their powers of debate, but it did not end here, for when the door was opened later on, the floor of the van was found to be literally paved with eggs. The moral was obvious, and the Chairman's story was greeted with rounds of applause.

After the address of welcome by H.R.H. the Duke of Connaught, the Hon. Clifford Sifton, Chairman of the Conservation Commission of Canada, gave an interesting *résumé* of the position city planning has attained. In the United States there is not as yet any federal or state co-operation in the affairs of city planning.

The constructive planning has been left to the individual cities, and the same has hitherto been the case with Canada. Some four or five years ago, however, the Canadian Commission of Conservation was formed with a view of conserving the natural products of the Dominion, such as minerals and forests, and at the same time increasing the productivity of fisheries and agricultural lands. The Commission has, however, considerably extended its scope by attention to such subjects as housing and town planning, and, since the Conference, has obtained the valuable services—in a consultative capacity—of Mr. Thomas Adams, whose services in connection with town planning under our own Local Government Board, and as first President of the Town Planning Institute, are so well known.

Town planning legislation already exists in the Provinces of Ontario (for towns of 50,000 people), Alberta, Quebec, and New Brunswick, and a draft Town Planning Act for the whole Dominion of Canada is already in course of preparation.

CANADIAN CONDITIONS.

As the Hon. Clifford Sifton well said, there is in Canada to-day perhaps the greatest field in the world for a successful combat with the evils which town planning and housing are intended to overcome. In almost every other country development has reached a stage which has resulted in the growth of very large cities containing great numbers of people packed together under most unhealthy and insanitary conditions. These are not necessarily slums, but rather those highly congested districts, such as whole areas of New York, where, during certain months, life is hardly bearable, and where health and physique steadily deteriorate.

There has been tremendous development in Canadian cities in the past few years, and although for the moment a halt has been called, it is probably but the preliminary to still further expansion in the near future.

Large and costly public buildings and business premises have been erected in almost a lavish way, but Mr. Sifton says, in a striking passage:

Alongside this ostentatious, not to say extravagant, expenditure, there is an increasing mass of poverty and destitution. When Canada had a population of only two and a half millions, and was admittedly poor and insignificant, there was not real want; no one was hungry, no one was houseless, and crime was very rare. Now we see eight millions of people, or thereabouts; we have great railways, we have great accumulations of wealth, but we are beginning to see slums, congested districts, and the ever-widening division between wealth and poverty which marks the beginning of the growth of a proletariat.

Compare the United States, which is aggressively protectionist, and which is only 140 years old, with free trade England, where the conditions are the result of the play of social forces that have been going on for centuries. Both of them exhibit in almost equal degree, allowing for a difference in natural cir-

cumstances, the evils of which we complain. It is a composite problem and requires a composite answer; but a part, and a most important part, of the answer is to be found in a rational adoption of town planning.

Mr. F. L. Olmsted pointed out that in Canada it was possible to deal with the larger problems of city planning in a direct, straightforward manner, without the legal embarrassments which were met with in the United States on account of their written Constitution. These legal questions were constantly hampering important projects in the States; in Philadelphia, for instance, the proposed application of "excess condemnation" to the laying out of the Fairmount Parkway had recently come to grief upon the rock of unconstitutionality, pending reference to the higher courts.

WATER FRONTS.

An interesting paper was contributed by Mr. R. S. Gourlay on the subject of the Toronto Harbour and Waterfront Improvements, now in course of development at a cost of \$17,000,000.

A waterfront either to the sea or to a river or lake is of untold value for any city, and the pity is that so many of the finest natural sites the world over have been marred in the making. There is hardly a waterfront anywhere which has not been more or less spoiled, and the existing front at Toronto is no exception, the larger proportion being still in private ownership. There is enormous traffic on these vast inland seas, and the Toronto Harbour Commissioners have set to work to provide an immense harbour $2\frac{1}{2}$ miles wide and $2\frac{1}{2}$ miles long, with boulevard and playground facilities for many miles along the lake front, at the same time reclaiming something like a thousand acres to the east of the town for industrial and commercial purposes.

The present harbour in front of the commercial part of the city has no through street from east to west, and it is proposed to construct a new thoroughfare 130 feet wide connected with modern concrete docks and streets running north for the full length of this area. The railways at present occupying the greater part of the lake front are, with the full approval of the companies concerned, to be placed on a viaduct south of this new street, thus setting free something like 180 acres of land in the very heart of the city, which will form a very valuable asset for the scheme. On the reclaimed land east of the harbour some 30 miles of streets and 30 miles of railway sidings are to be formed. The necessary financial arrangements are being made by means of forty-year bonds guaranteed by the city. The Harbour Commission consists of five members—three of whom are appointed by the city and two by the Government.

A criticism which might be made of the scheme, however, is that it has, like so many dock schemes, been treated as a separate unit. The industrial development to the east of the town will undoubtedly lead to a very great increase in land values in the

adjoining land immediately behind, and no provision is, apparently, made either for town planning this area or for the betterment to be shared by the town. In Kansas City practically the total value of the extensive park system has been assessed back upon the adjoining property, and several speakers suggested that this method of special assessment was capable of considerable extension with a view to the relief of the financial burdens on the city. No power at present exists in Canada for absorbing "unearned increment" of this character, but it is understood that provision is being made for this purpose in the draft Act now under consideration.

An even more important point is that architectural considerations should enter into every scheme of this kind. Too often, both in the colonies and at home, proposals are brought forward, excellent in their way from the engineering and financial aspects—good sound business "propositions"—but entirely lacking in architectural conception, and frequently without even a thought of architectural control. This financial and business aspect of city planning in America was strongly brought out in the succeeding Papers.

LOANS AND FINANCE.

Mr. Andrew W. Crawford, of Philadelphia, dealt with the subject of raising loans by the issue of municipal bonds, which in America are customarily for periods of thirty years or fifty years. He made an interesting suggestion that in the issue of such municipal loan stock it should be possible to have a very small sinking fund charge to commence with, gradually increasing annually with the growth of population. In fifty years' time many of our towns will with normal growth have nearly four times their present population, and outlying parks, for instance, which with us to-day are somewhat of a luxury, will then be indispensable to their urban neighbourhoods. The desirability for some system of graded sinking-fund charges of this kind is specially emphasised in several of the American States, where the borrowing powers of many of the cities are strictly limited by the State constitutions. The limit varies from State to State. In Philadelphia the limitation is 7 per cent. on the assessment value, but it was stated by Mr. John Nolen in the course of the discussion that the municipal borrowing powers under the constitution of some States are as low as 2½ per cent. of this amount, and in other States as high as 25 per cent.

RECOUPMENT OF COST.

American practice, as laid down by Mr. Crawford, is in favour of the adoption in the case of internal city improvements of the system of "excess condemnation," which is merely the European method of purchasing an area in excess of that needed for the improvement and selling the surplus land at its enhanced value, a principle which, it will be remembered, has already been adopted by the London County Council

in the Aldwych and Kingsway improvements. In undeveloped districts, however, Mr. Crawford expressed the opinion that some system of assessment for benefits or betterment is the method which should be adopted; frequently a combination of the two methods will be advantageous, the property immediately abutting on the improvement being purchased outright and resold, and a special assessment made on the other properties in the neighbourhood which have been benefited. In the municipal construction of tube railways, or rapid transit lines, this principle is now being seriously considered. A recent Philadelphia investigation confirmed the experience of New York City in this respect, by showing that a newly constructed tube railway of this kind so concentrated the normal general increase of the entire residential areas of the city within its own sphere as to cause an actual loss for six years in all the other residential areas not served by the railway, despite the erection of some 21,000 new houses in these other areas.

In the case of parks this is even more strongly marked. "During the sixteen years following the laying out of Central Park in New York the average increase in the value of property in the other parts of the city was about 100 per cent., while in the districts adjoining the new park the increase was approximately 800 per cent." Prompt expenditure is in this sense often the truest economy.

Compare, for a moment, the value of property along the Thames Embankment with its value before the construction of that magnificent water-front—the actual cost of construction has been recouped many times over, in addition to the magnificent improvement secured. The improvement of river frontages is seizing public imagination in America, but not before it was needed. As Mr. Crawford put it: "If beauty pays, how much does ugliness cost? Do we realise how dearly we are paying every year for our investment in rectangular gridiron schemes of unattractiveness?"

MUNICIPAL BORROWINGS.

Mr. John Nolen, of Boston, in emphasising the necessity for largely increased borrowing powers for American municipalities, said that it was preposterous that municipalities should be handicapped in carrying out large improvements with such a limited capital as they were at present allowed, compared with the capital for an ordinary commercial undertaking, such as a bank or a railway.

Historically it appears that this hard-and-fast limitation is due to the fact that fifty years ago many American cities aided the railways financially, and the various State Legislatures proceeded to make it almost impossible for the cities to engage in enterprises of this kind. The control exercised by our own Local Government Board is beneficent, compared with the constitutional disabilities of our American cousins. For Canadian cities there is at present no Local Government Board, and no limit has been imposed on municipal borrowing, with the result that in some cases

there has been a tendency unduly to increase the city indebtedness.

Against this point of view of raising capital by increasing the municipal indebtedness, Mr. E. S. Goodrich, of New York City, cited a case of a municipality of about 300,000 inhabitants which had decided to spend \$1,000,000 a year in improvements. If fifty-year bonds were at once issued to the extent of \$16,000,000, that sum of a million dollars would all be spent in interest and sinking fund, together amounting to about 6 per cent. per annum, and all the city would receive would be, say, sixteen improvements; whereas, if that same amount of money were spent annually on actual improvement work, at the end of the period they would have fifty improvements for the same expenditure.

CITY PLANNING COMMISSIONS.

A report of the year's progress in city planning was presented by the Secretary of the Conference, Mr. Flavell Shurtleff, of Boston. The remarkable feature was in the increased number and efficiency of the official planning commissions which had been instituted. In 1907 Hartford, Connecticut, had the only official city planning commission in America. In 1913 there were twenty-two such commissions, and in the last twelve months forty more had been added, and at least half as many more recommended by the various mayors for adoption.

The Massachusetts Legislature in 1913 passed an Act making it compulsory in all cities and towns with a population of 10,000 and over to appoint a Town Planning Board. Pennsylvania has a similar Act for all cities under 100,000 people.

The Massachusetts Homestead Commission, appointed in 1912, is in the position of a Central Town Planning Board, and deserves much of the credit for forwarding the city planning movement in that State, with the result that there are now thirty Town Planning Commissions in that State alone.

It is curious, however, how much of this effort is directed to the idea of forming a "civic centre" where all the city's business can be focussed, and to the opening out of diagonal streets—such as the Fairmount Parkway in Philadelphia—across the rectangular pattern of the typical American town—an interesting commentary on the defects of the rectangular plan. Much useful work has, however, been done in all directions; the various City Planning Boards take into consideration not only the subject of new roads, but the regulation of tram routes and underground railways; and in the case of New York, the Heights of Buildings Commission has secured an amendment to the city charter, which gives the Board of Estimate and Apportionment power to create districts with varying restrictions as to height of buildings and percentage of open space, and also to create residential districts from which industrial buildings will be excluded.

In Chicago the Plan Commission has, after strenuous effort, succeeded in defeating a railway proposal which

would have interfered seriously with the eventual carrying out of the Burnham plan for Chicago, an ideal kept steadily in view by the Commission.

In Boston the City Planning Commission has recently issued a special report dealing with new thoroughfares and railway connections across the city from north to south.

The growing powers of these Commissions is exemplified by an ordinance recently passed for the city of Cleveland, an extract from which is as follows:

Hereafter no public building, harbour, bridge, viaduct, street fixture or other structure and appurtenance shall be located, constructed, erected, removed, relocated or altered until and unless such plan, design or location shall have been submitted to and approved by the Commission; and no such work when completed shall be accepted by the City until and unless it shall have been approved by the Commission.

PROTECTION OF RESIDENTIAL DISTRICTS.

The police powers in nearly all American cities also afford an opportunity of excluding specified industries from any particular area "for the promotion of public health or for the public welfare," but these powers cannot at present be stretched to include æsthetic considerations. In 1909 the first effort was made in California to exclude industries from certain established residential districts in the city of Los Angeles, followed the next year by the city of Grand Rapids, Michigan.

Legislation giving powers to municipal authorities to prescribe districts exclusively residential was passed in 1913 in the State of New York for second-class cities, and for all cities of over 50,000 people in the States of Minnesota, Wisconsin, and Illinois. As long ago as 1896 a somewhat similar law was passed for Nova Scotia.

A feature of the New York law is the exclusion from strictly private residence districts of the huge multiple dwellings, such as tenement houses and apartment houses and hotels, which are so marked a feature of certain districts of New York. The Act is, however, not retrospective. In most of the other States the law simply permits differentiation between residential and industrial districts.

Mr. Lawrence Veiller, of New York, Secretary of the National Housing Association, whose knowledge of housing conditions in that city is unique, emphasises very strongly the necessity for housing and city planning to go hand in hand, and for the protection of residential districts by restrictions on industrial buildings, &c. The overcrowding in the eastern portion of New York is well known; statistics show that in 1905 about one-sixth of the entire population of New York was living there in $\frac{1}{8}$ of its area, a density of over 1,000 people per acre being common.

The provisions of the draft Town Planning Act for the Dominion of Canada afforded an opportunity for a very lucid explanation of the English Act by Mr. Thomas Adams, followed by an interesting discussion on the applicability of the Garden City ideal to Canada and the United States.

RAPID TRANSIT.

In America the question of rapid transit is everywhere in the public mind; and it is strange that in Great Britain this side of the problem should so often be forgotten or receive so little attention. It is the primary function of the long-distance railway to connect the populous centre with the outside world; the function of the tramway (or street-surface railroad) is that of distribution of population within limited areas, and as the population spreads, and distances and time occupied in distribution become greater, it is obvious that a point is reached in the evolution of a city when some means of quicker and more rapid handling and distribution of passenger service becomes a vital necessity. This "transportation service" is reckoned part of the American city's duty, and although the actual lines are in most cases worked by a company, the undertaking is in the first instance in most cases guaranteed and partly financed by the city.

The tube railways and new electric lines will indubitably fix the centres of development in all the new suburban areas touched by them; they accordingly form a very essential part of town planning, and their location should rightly be under the control of the proper town-planning authority.

The general necessity is for rapid transit to and from the centre on radial lines, but there are many cases where, by reason of the amalgamation of outlying towns, business necessities or otherwise, some form of direct intercommunication is necessary, but the proportion of circumferential to radial traffic will generally be small.

Mr. John Vipond Davies, the New York engineer, gives an interesting comparison of average speeds attainable under New York conditions:

Street tramways in congested districts, average speed 8 miles an hour; street tramways in less dense districts, 11 or 12 miles an hour, but average speed will not exceed 9½ miles an hour; electric tramways on private tracks will average from 12 to 15 miles an hour; elevated railroads (or subways), with stations about 1,200 feet apart, will average about 15 miles an hour; express service, with stops about 2 miles apart, will average about 25 miles an hour; steam railroads on "rapid transit" suburban service, with less frequent stops, will average from 30 to 35 miles an hour.

The tendency of railway managers and public generally is to demand increased speed and consequently longer distances between the stops, and this is a tendency which deserves every encouragement. In America it is found that there is a constant demand by "real estate promoters" to ruin the entire high-speed express service by introducing frequent stops on express lines, thereby to a large extent reducing the express "non-stop" service to little better than is provided by the local trains. With regard to gradient, it was stated in the discussion that electric motors easily carry a train up a grade of 4 to 4½ per cent. (1 in 25).

The relative costs of surface tramways, subways, elevated and other railroads in the neighbourhood of

New York are given by Mr. Davies as under, the amounts being reduced to English equivalents:

Types of structure for double tracks.	Cost per mile of single track.
Tramway in suburban districts, overhead system ...	£5,000
" " city streets, overhead system ...	£8,400
" " underground subway, New York ...	£25,200
" " " " Washington ...	£9,700
Elevated railroad " " " " from £25,000 to	£35,000
Railway in open cut ...	£45,000
" " on masonry viaduct ...	£66,000
" " underground "subway" in wide streets ...	£80,400
" " " " in narrow city streets	£238,000
Tube railways below water-level ...	£540,000

It will be seen from these figures that no city can afford the expense of running electric railways within walking distance of every part of its outlying areas, and therefore in conjunction with the railway express service there must be run from the outlying stops either trams or motor omnibuses for distribution purposes.

The tramway or street railway is almost universal in American cities, but an interesting discussion took place as to the possibility of utilising the motor 'bus to a greater extent, particularly under the difficult conditions of a Canadian winter. In New York there are even now only about 100 motor 'buses, mainly operating along Fifth Avenue, as compared with considerably over 3,000 in London, operating in all directions. London, therefore, has a very considerable lead in this respect.

The general introduction of the motor 'bus would inevitably necessitate the improvement of the paving of the streets in New York and other cities, which at present, owing to the extensive use of street railways and overhead railways, are very largely neglected. In London one of the great advantages is the "flexibility" not only as to route, but on Sundays and holidays to be able to provide additional outlets in new directions.

The regulation and direction of transit, whether by electric railway or by motor 'bus, is an integral part of city planning, and Mr. Geo. McAneny, the Vice-Mayor of New York, laid it down that the city should decide for itself where lines shall be laid or routes fixed, and lay them out according to its own logical development, and not merely for the purpose of earning money upon a commercial basis. During the last two years rapid transit railways, underground or elevated, have been built in New York at a cost of £65,000,000, which would make a total investment in the city's electric railways of £110,000,000. The city itself is undertaking the responsibility for these new lines, and they are being planned, not merely as trunk lines through the town, but in two or three cases the lines are being taken far out into the suburban boroughs to the utmost limit of the city, crossing in some spots untouched fields. The actual operation of the lines is being leased to the electric railway companies, but the lines themselves and any required alterations or extensions are under the direct control of the city.

The tendency of transit schemes in the past has

been to increase the congestion of the business centres, and especially in such a town as New York, where the lower end of Manhattan Island has for many years been piled up higher and higher with commercial buildings of the skyscraper type. It has been calculated that in the case of the Woolworth Building alone it would occupy the railway for twenty-two minutes to get the whole of its 10,000 tenants away from the nearest electric railway station, and still New York goes on building skyscrapers. The proper regulation of heights of buildings is, however, now within sight, and the new tunnels under the Hudson and the East River will do much to distribute the growth laterally.

PARKS AND PLAYGROUNDS.

So far it will be seen that the financial and engineering sides of the problem are largely dominating the American mind, though health considerations (parks and playgrounds) are also asserting themselves.

In many American and Colonial towns the playground is not necessarily attached to the school, as it is so often with us in England. The size and distribution of playgrounds as apart from parks is, therefore, a subject which has been taken up scientifically and enthusiastically by American cities, and the Paper by Prof. Henry V. Hubbard, of Harvard, was a thoughtful contribution to the subject. His conclusions may be summarised as follows:

Little children's playgrounds should be provided within a quarter mile of every house without the necessity of crossing

busy streets, though in many cases it is desirable to provide a small playground within each block for children under six.

Playfields have an average effective radius of half a mile. "Neighbourhood centres,"* or recreation facilities, half a mile.

Playing fields should be within a 5 cent tram ride (practically equivalent to a penny tram ride).

The theoretical distances are easy of application in a new town, but in a city with such congested areas and high land values as New York they are exceedingly difficult to apply, and a suggestion has even been seriously put forward that children's playgrounds might be built five or six stories high with open sides. There would seem to be something very wrong with our cities though if their future citizens are to get their play from some such pitiful expedient in the way of roof gardens.

Such, briefly, is a *résumé* of the position of city planning in America as revealed by the Conference. It is instructive to note that not a minute of time was spent on the classical tradition, or the mediæval picturesque city, or the lines of architectural design, which have formed so large a part of our own Conferences. Aesthetic control was indeed touched upon, but the questions that had the foremost place were of loans and finance, constitutional and legal difficulties, transit facilities, and to some extent the provision of parks and playgrounds. It must be remembered, however, that members and officials of municipal authorities had a large share, and that the architects had to confine themselves mainly to the administrative questions involved in the discussion of these matters.

W. R. DAVIDGE [A.].



View of a Chicago Suburban Street.

* With the disappearance of the clearly defined parish in the English sense there is in many American cities a need felt for some local centre to serve as a nucleus for social work where all the local activities can be combined; the term "neighbourhood centre" expresses this idea.



9 CONDUIT STREET, LONDON, W., 26th June 1915.

CHRONICLE.

R.I.B.A. Record of Honour : Thirteenth List.

Died of Wounds.

HORSFIELD, JOHN NIXON [*Associate*, 1907], Lieutenant, R.N.V.R., "Hawke" Battalion Royal Naval Division. Died of wounds received during the operations in the Dardanelles.

On War Service.

The following is the Thirteenth List of Members, Licentiates, and Students who have enlisted for the War, the total to date being 41 Fellows, 292 Associates, 139 Licentiates, 2 Hon. Associates, 171 Students :

ASSOCIATES.

Cullen, D. S. : R.A.M.C.
Emerson, Ernest : 2nd Lieut., Royal Field Artillery.
Hall, E. Stanley : 2nd Lieut., 2/5th Bn. Roy. West Surrey Regt.
Heal, A. Victor : 1/1 Suffolk Yeomanry.
Hedley, Geo. E. : Canadian Field Artillery.
Humphry, Francis J. : Royal Engineers.
Matthews, H. E. : 5th Bn. Sherwood Foresters.
Paterson, Claude : Royal Hants Regiment.
Thomas, Noël : Royal Engineers.

LICENTIATES.

Barker, F. G. : Pioneer Bn., R.E. (Welsh Regt.).
Deacon, W. T. : R.E. (Cheshires).
Livesay, F. H. : Capt. 6th Bn. Durham Light Infantry.
Whitelaw, Chas. E. : Capt. 5th Bn. The Cameronians.

STUDENTS.

Bruce, J. C. C. : 2nd Lieut., Northumberland Div. Engineers.
Maw, Arthur R. : 2nd Lieut., 2/10th Bn. Manchester Regt.
Poley, A. E. : 28th Bn. County of London Regt.
Stuart, A. D. : 2nd Lieut., 10th Seaforth Highlanders.
Taylor, J. E. C. : 2nd Lieut., 10th Bn. Manchester Regt.
Young, C. J. M. : Royal Engineers.
Young, G. C. : Cadet, R.M.C., Sandhurst.

Members will be glad to hear that Lieut. Dalghiesh [*A.*], who so miraculously escaped a mortal wound while in charge of an advanced post on the Messines Ridge [see p. 396], but was still so badly injured that he had to have his arm amputated, is making such good recovery that he has left the hospital at Boulogne, and was able to visit the Institute a few days ago.

The deepest sympathy is felt with Mr. Frank Smith [*A.*], of the Borough Engineer's Office, Southend-on-Sea, whose wife has died at the Victoria Hospital from injuries sustained during the Zeppelin raid over Southend on the night of the 26th May.

The Royal Gold Medal Night.

As will be gathered from the speeches printed on the opening pages of this issue, last Monday's meeting wore something of the air of a patriotic gathering, matters of art being relegated for the moment to the background. The meeting was a large and, as usual on Gold Medal nights, a very representative one—representative in a fuller sense than usual. Prior to the meeting, the Council had entertained to dinner at the Trocadero the official representatives in London of various Overseas Dominions of the Empire, including Sir George Perley, K.C.M.G., High Commissioner for Canada; the Hon. W. P. Schreiner, C.M.G., High Commissioner for South Africa; and the Hon. T. Mackenzie, High Commissioner for New Zealand. Other guests were Sir Thomas W. Holderness, K.C.S.I., Permanent Under Secretary of State at the India Office; Mr. Wm. L. Griffith, Permanent Secretary to the High Commissioner for Canada; Mr. Donald Macmaster, K.C., M.P., and Mr. Joseph G. Colmer, C.M.G. Past Gold Medallists present were Sir Ernest George, A.R.A. [1896], Sir Aston Webb, K.C.V.O., C.B., R.A. [1905], Sir Thomas Jackson, Bart., R.A. [1910], Mr. Basil Champneys [1912], and Mr. Reginald Blomfield, R.A. [1913]. The Royal Academy was further represented by Sir W. Goscombe John, R.A., and Mr. Frank Dicksee, R.A. All these gentlemen came on afterwards to the meeting at Conduit Street. The sympathies of the audience were manifestly enlisted by the interesting personalities of the Canadian and South African speakers, and the many patriotic points made in their remarks were enthusiastically applauded.

The Architects' Volunteer Corps.

The work of the War Service Bureau organised by the Architectural Association has proved most valuable and effective, and their Recruiting Agency in Tufton Street has the recognition of the War Office. Between 750 and 800 men have passed through this Agency into the Regular Forces, and a considerable number have been enabled to join the Army equipped with a useful knowledge of drill and military discipline. The proved usefulness of the Corps fully justifies an increase of its numbers, and to this end a new Company is being recruited, with headquarters at the Central Electric Supply Company's Generating Station, Lodge Road, St. John's Wood. Besides the Corps' headquarters in Tufton Street, local headquarters have been established at Dulwich College, the Mercers' School, Holborn, and at the A. A. Sports Ground, Elstree. Drill centres are to be arranged for new platoons in localities convenient to members. The instruction given includes gymnastics, physical drill, and bayonet fighting; squad and company drill; musketry instruction, firing on miniature range; signalling and field engineering; cyclist, scout and ambulance work. Week-end and other camps are held periodically, at which advanced practical training in military work is taken. The Field Engineering

Section recently erected a bridge 72 feet long in seven working hours. It is proposed to hold a camp under canvas at the end of July and beginning of August, at which combined training with other battalions of the Central London Regiment (Volunteers) and other corps will be held. The keenness and efficiency of every section of the Architects' Corps testify to the activity and unceasing efforts of its officers, Commandant Lieut.-Col. Warden, of the Indian Army (retired), Sub-Commandants C. Stanley Peach and Major Monson, Adjutant L. Rome Guthrie, and others. Recruits are urgently needed to make up gaps in the ranks caused by the passing of men into the Regular and Territorial Forces, and to carry on and extend the work of recruiting and training men for these Forces. Enrolment forms may be had on application to the Adjutant's office, 10 Conduit Street, W.

The National Road Conference and Exhibition, 1915.

The National Road Conference and Exhibition, organised by the County Councils Association, and now being held at the Royal Horticultural Hall, Westminster, were formally opened by the Right Hon. Walter Long, M.P., President of the Local Government Board, yesterday, the 25th inst., and will close on Thursday, 1st July. Conferences are to be held on the following subjects:—

28th June.—"The Use of Tar, Pitch, and Bitumen in the Construction and Maintenance of Roads, with special reference to the subject of Corrugations."

29th June.—"Heavy Traffic."

30th June.—"The Classification of Roads."

1st July.—"The Reconstruction of Roads in Belgium." Paper by M. Henri Vandervin, Engineer-in-Chief, Direction des Ponts et Chaussées, Belgium.

The Exhibition, open from 10 till 7, is largely on the lines of that held at the time of the London International Road Congress of 1913. The County Councils Association issue a cordial invitation to members of the Institute to take part in the Conferences and to visit the Exhibition.

The R.I.B.A. will be officially represented by Mr. Max Clarke [F.] and Mr. F. M. Elgood [F.].

CORRESPONDENCE.

Alien Enemy Members.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—It is announced in the current issue of the JOURNAL that the Council have decided that the names of the German and Austrian Hon. Corresponding Members shall be deleted from the *Kalendar*.

It is possible that expulsion would have been more to the minds of some, but there were difficulties in the way. Bye-laws 24 and 25 prevented such a step unless the offending members were given reasonable opportunity to meet any charge that might be made against them; and even then the Council is not permitted to take drastic action unless there is a majority of at least two-thirds.

The Institute at its meeting on the 4th January last has already expressed itself against expulsion, and in view of the Bye-laws the fact that the majority was a narrow one is beside the point.

Reprimand, suspension, or expulsion for Dr. Dörpfeld, Otto Wagner, and the rest was not possible—or, at any rate, it would have given us too much trouble, consequently a milder but more questionable form of action has been adopted for teaching the enemy Hon. Corresponding Members their place, and they are to be slighted by having their names deleted from the *Kalendar*: and this is done, if you please, behind their backs. Even the most miserable spy is not condemned in law without full opportunity being given for him to make out his case; we even help him to do so. The letter of Bye-laws 24 and 25, drawn especially to ensure fairness all round, has been adhered to, but the spirit has been violated.

To use the word "delete" instead of "expel" is merely to substitute a mild tweedledum for a strong tweedledee; a difference not of kind but of degree.

It is to be presumed that certain of us, remembering His Majesty's most just action about the Garter Knights, have thought we would go and do likewise, and as a consequence have tumbled into the very commonplace pitfall of false analogy.

The King expelled recreant Knights who were responsible directly for the Belgian abominations. We have decided to delete from the *Kalendar* the names of architects who, for all we know to the contrary, have been protesting as far as possible against their nation's crimes.

It is not a sufficient answer to say that we are deleting the names of our enemies: the relationship is personal, not national; individual, not representative. We have invited certain German and Austrian architects to become our members, not because they are German or Austrian, or for the purpose of representing those countries, but because of the excellence of their own personal work for architecture and civilisation. Until we are assured without doubt that they have become recreant by condoning the destruction of Belgian life and art we have no right to alter their status with us by a hair, much less to do so without hearing their defence.

Surely it is a poor, ungenerous thing that we have done, one of those small acts which will be found to be so pernicious in their cumulative effect when the time comes for the re-establishment of goodwill in Europe.—Yours faithfully,

W. E. VERNON CROMPTON [F.].

The Evolution of the Architectural Competition.

22nd June 1915.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—Can you afford a little space in the JOURNAL for a word on the subject of Mr. Lancaster's interesting Paper on the above subject? I

have grave doubts of the wisdom of Mr. Lanchester's suggestion to Building Committees of forming sub-committees to consult with local experts to form a programme to be submitted to two independent architects, and then constituting a jury of five.

I would suggest that a better plan would be for the Building Committee to fix the accommodation, approximate cost, and "all those matters that are predetermined by force of circumstances," and then hand over the whole matter to a single assessor (who should be guided by the principles set out in Mr. H. T. Hare's letter contributed to the discussion on Mr. Lanchester's Paper), and leave him alone.

I agree with Mr. Lanchester that:

(1) "The less imaginative man with a better training in technique may be superior as a judge to the greater artist."

(2) "The adjudication of competitive designs should not be entirely in the hands of the older men."

(3) "With a good programme no further questions should be needed."

(4) "I wish I could take the optimistic view of the President that 'the head and shoulders' best plan would always come out on top however adjudicated. I should feel happier in my mind if I could think that."

Mr. Cross, in the discussion, referred to the system by which designs might be assessed by the competitors. It would be an interesting experiment for the R.I.B.A. to institute a competition on these lines, at the same time appointing a single assessor and a jury of assessors.

In conclusion, I think that in all cases of competitions the demands upon the competitors should be as small as is consistent with a clear indication of intention.—Faithfully yours,

JOHN E. YERBURY, *Licentiate*.

The War and the Craftsman.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The clarion call of Mars drowns the gentler pleading of the Arts. It is not given to us all to emulate the example of men like Benvenuto Cellini, to lay down the chisel and take up the sword; many of us are past our fighting days and can only look on and wait with wistful memories of vanished youth.

Every day it becomes more difficult to find work for the men engaged in the industrial arts. It is particularly hard on those skilled workers who, too old or unfitted for service to the State, are called upon to bear such a very large share in the catastrophe of war. The practice of their craft demands prosperity and peace. All this is now swept aside, and these men are faced with the practical cessation of their work combined with the greatly increased cost of living.

What can be done to help them? Think what the crafts of England have done in the past, how the history of the nation is written on the walls of her mansions and churches in stone and wood, the poetry

of the dead singing through the ages. How proud we have all been when we have seen these past records of the carver's chisel. Is there not some little debt that the people owe to those craftsmen and their descendants?

Many schemes are formulated to help those who suffer by the war, but, as often happens, there are always some whom neither philanthropy nor charity can reach, men who silently bear the full burden of affliction without the power of appeal. Can nothing be done to stimulate once more the demand for the work of such men? It is not charity these men ask for, it is work, which can only be obtained by the co-operation of those who understand and sympathise with the traditions of the Crafts.—Yours truly,

W. AUMONIER.

OBITUARY.

The late Joseph Arthur Reeve.

The profession has lost one of its able exponents by the death of Joseph Arthur Reeve, which took place on the 10th May. Born in 1850 and educated in Exeter, Mr. Reeve was articled to Mr. E. J. Tarver, and afterwards entered the office of the late William Burges. While with Mr. Burges he was commissioned to make a careful survey of the ruins of Fountains Abbey for the Marquis of Bute, and the result of his labours was published in his *Monograph on Fountains Abbey*, a work which is a monument of patient industry, the exact position of each stone being accurately recorded, and the volume being embellished with delicate sketches of his ideas as to the original condition of the building. Work soon came to him when he commenced practice about forty years ago, and was of very varied character.

Among his chief buildings may be mentioned St. Boniface Missionary College, Warminster; the fine church of St. Mark, Salisbury, now approaching completion; Archbishop Temple's Boys' School and Master's House in Lambeth; Pepys House, Westminster; a school house at Uppingham; the chancel at Christ Church, Chelsea; chancel and reredos, St. Barnabas, Addison Road; the chancel of Widmerpool Church; St. Anne's Church, Roath, Cardiff.

Mr. Reeve had considerable experience in the restoration of old churches, his principle in such work being to retain as much as possible of the ancient work and to make good defects in a thoroughly sound manner. The following are some of the buildings entrusted to his care: churches at Ramsbury, Redenhall, Welborne, East Dereham, Cawston, Mattishall, Waltham Abbey, Leverington, Ellingham, Luton, Cliffe, Chilham, Dartmouth; the Bishop's Palace at Salisbury, and a Canon's residence at Ely.

Mr. Reeve took a keen interest in colour decoration. Examples of his work in this direction may be seen at St. John's, Truro; St. John's, Hoxton; St. Andrew's, Westminster; St. Stephen's, Westminster, and Luton

Parish Church. Screens, altars, and reredoses were frequently placed in his hands; the work in St. Edmund's Chapel, Ely Cathedral, Addington Church, St. Saviour's, Westgate-on-Sea, St. Andrew's Home, Folkestone, Lambeth Parish Church, and Ramsbury being typical examples. In addition to these he designed a vast amount of church furniture and needlework, all of which shows careful thought and refinement of detail. Many churchyard and other memorials were carried out by him, some of the more notable being: the memorial to five archbishops at Addington; a churchyard memorial at Hayes; the "Hambro" Monument in Milton Abbey; memorial to Archbishop and Mrs. Magee at Peterborough; the "Thring" Memorial Cross at Uppingham; the "Wordsworth" Cross at Britford, near Salisbury. One very interesting piece of work is the marble "Font Grave" in Lambeth Parish Church in memory of Archbishop Benson. Other examples of his skill are shown in the beautiful pastoral staff in sculptured ivory enriched with jewels which was executed for the late Bishop of Salisbury; a staff for the Bishop of Edinburgh in carved oak, and another in bass wood richly decorated and gilded for the Bishop of Norwich.

The whole of Mr. Reeve's work shows great care and attention to detail; he considered no trouble too great to arrive at what he felt was the best result, and consequently his work bears the stamp of his own personality. A man of unassuming manner and high ideals, he never sought publicity, but he has left behind him some examples of his art which will be worthy memorials of a refined and artistic mind.

W. J. WILSDON, *Licentiate*.

Robert Fellowes Chisholm, F.S.A., who died on the 28th May in his seventy-sixth year, was elected a Fellow in 1871, and was placed on the list of Retired Fellows in 1912. The greater part of his professional life was spent in India, where he held for many years the post of Consulting Architect to the Government of Madras. He was responsible for a group of buildings of the Madras University, and a distinction he much prized was the Fellowship conferred upon him by the University. His most important work in India was the Baroda Palace, the town residence of the Gaekwar of Baroda. The building covers an area of some 60,000 superficial feet, and is said to have been the most costly structure erected by a private individual during the nineteenth century. Other important works were the New College at Baroda, the Museum and Pavilion, Baroda; Bombay Municipal Offices, &c. During visits to England he read the following Papers before the Institute: "Terommal Naik's Palace, Madura" [TRANSACTIONS R.I.B.A. 1876-77, p. 159]; "New College for the Gaekwar of Baroda, with Notes on Style and Domical Construction in India" [TRANSACTIONS R.I.B.A. 1882-83, p. 141]; "Baroda Palace" and "Some Principles of Domical Construction" [JOURNAL, 28th May and 11th June 1896]. On his retirement from India,

Mr. Chisholm gave up practice, and was placed on the List of Retired Fellows in 1900. After two years, however, he returned to professional life and resumed his Fellowship, practising in John Street, Adelphi. His chief work at this time was the Church of the Christian Scientists in Wilbraham Place, Sloane Street. He also prepared a design for an Indian Museum suggested for erection in Belvedere Road, Southwark. He rejoined the ranks of Retired Fellows in 1912, and spent the remainder of his days at Southsea.

William Lovell Mason, of Ambleside [*Fellow*, 1896], who was killed in a motor-cycling accident on the 28th May, in his fifty-first year, served his articles with Mr. George H. Bibby, of Manchester, and was afterwards an improver in the office of Mr. Paul Ogden [F.]. He began practice in partnership with his father in 1885, and was responsible for numerous residential buildings and business premises in Ambleside. He was manager for the Stock Ghyll Park Committee, surveyor for the Greenbank Estate, and had carried out important sewage works for the Ambleside Local Board. He was a water-colour artist of exceptional ability, and was widely known as an expert in forestry.

MINUTES. XVI.

At the Sixteenth General Meeting (Ordinary) of the Session 1914-15, held Monday, 21st June 1915, at 8.30 p.m.—Present: Mr. Ernest Newton, A.R.A., *President*, in the Chair; 39 Fellows (including 14 members of the Council), 28 Associates (including 2 members of the Council), 8 Licentiates, 5 Hon. Associates, and numerous visitors—the Minutes of the Meeting held 7th June 1915, having been published in the JOURNAL, were taken as read and signed as correct.

The Hon. Secretary having announced the decease of John Macvicar Anderson, *Past President*, and referred to his many services to the Institute, it was

RESOLVED, that the Institute do record on the Minutes of this Meeting its grateful appreciation of the eminent services rendered to the Institute by its late esteemed Fellow and *Past President*, John Macvicar Anderson, and an expression of deep regret at the loss it has suffered by his death; and that a message of sympathy and condolence be conveyed on behalf of the Institute to his widow and family.

The Hon. Secretary also announced the decease of Dr. William Robert Ware, *Hon. Corresponding Member*, Boston, U.S.A., and a vote of sympathy and condolence was passed to his nearest relatives.

The decease was further announced of William Robert Osborne and Samuel Cooper Stephens, *Licentiates*.

The following members attending for the first time since their election were formally admitted by the President: Horace Porter, Frank Peck, and Edward Arthur Hunt, *Fellows*, and Maurice Tobias, *Licentiate*.

The President delivered an Address on the Presentation of the Royal Gold Medal to Mr. Frank Darling [F.], of Toronto.

Sir George Perley, K.C.M.G., High Commissioner for Canada, received the Medal on Mr. Darling's behalf, and, having read a cablegram from Mr. Darling expressing appreciation of the honour and regret at his inability to be present to receive it in person, Sir George made some remarks upon the high merit of Mr. Darling's works and upon his worthiness generally to receive the distinction conferred upon him.

Upon the motion of Mr. Reginald Blomfield, R.A., *Past President*, seconded by the Hon. W. P. Schreiner, C.M.G.,

High Commissioner for South Africa, a vote of thanks was passed by acclamation to Sir George Perley for his kindness in attending the Meeting.

Sir George Perley having addressed the Meeting in reply, the proceedings terminated, and the Meeting rose at 9.50 p.m.

THE EXAMINATIONS.

The Final: Alternative Problems in Designs.

Instructions to Candidates.

1. The drawings, which should preferably be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9 Conduit Street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, AND HIS FULL NAME AND ADDRESS, and the name of the school, if any, in which the drawings have been prepared, must be attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the Student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the Student may profit by advice.

4. Drawings for subjects (a) are to have the shadows projected at an angle of 45° in line, monochrome, or colour. Drawings in subjects (b) are to be finished as working drawings. Lettering on all drawings must be of a clear, scholarly, and unaffected character.

Subject XXII.

(a) THE ENTRANCE FAÇADE TO A TUBE RAILWAY STATION IN A MAIN THOROUGHFARE. The total width of the façade available for both approaches and exits to be 40 feet. The upper part is to be let off as offices with separate entrance and staircase.

Drawings.—A plan to $\frac{1}{2}$ -inch scale, shewing the arrangement of booking offices, &c.; and an elevation and section of the façade to $\frac{1}{2}$ -inch scale.

(b) A CO-OPERATIVE STORES in a small village of 300 inhabitants, to be managed by a resident salesman. The shop, to be built on the south side of the village street, should be portioned off into groceries, provisions, and drapery—the latter with a top light. There should be considerable storeroom accommodation in connection. The salesman to have a living-room, kitchen and usual offices, three bedrooms and bathroom.

Materials.—Brick and tiles, with rough-cast if desired.

Site.—A corner site with chief frontage 54 feet to main road, and a small lane at the side.

Drawings.—Plans of each floor, one section and two elevations, with one detail, $\frac{1}{2}$ -inch scale, of portion of front elevation.

Subject XXIII.

(a) A SCHOOL CHAPEL to accommodate 250, of whom 150 are boys. Gallery at west end for organ and choir. Vestry for clergy and choir. Entrance porch, or narthex, with way up to gallery. Screen under gallery shutting off entrance from chapel.

Drawings.—Plan and two elevations to $\frac{1}{2}$ -inch scale, cross section and one bay longitudinal section to $\frac{1}{4}$ -inch scale.

(b) A DOCTOR'S HOUSE (detached), to be built in stone on a corner site, say, 80 feet by 200 feet, in the main road of a provincial town, such as Stamford.

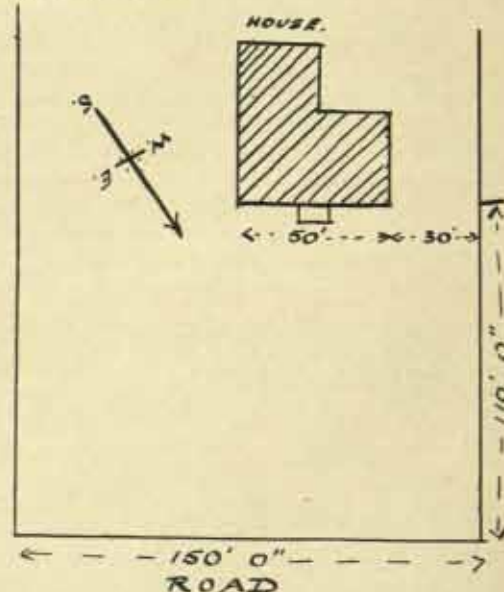
Accommodation.—Separate entrance for patients; consulting and waiting rooms near the kitchen part of the house. Front and back stairs. Good drawing-room and dining-room, five ordinary bedrooms, with one dressing and two bathrooms, and usual offices; one bedroom for a resident patient, with bathroom adjoining, and small bedroom for nurse. A study or morning-room is optional. The house is to be set back from the road on both frontages. A small garage without living accommodation is desired.

Drawings.— $\frac{1}{2}$ -inch plans and two elevations and one section and a small block plan.

Subject XXIV.

(a) The accompanying plan shows a large house built in 1810, standing 110 feet back from a main road now much used by motor traffic. The owner is greatly inconvenienced by noise and dust, and desires to enclose his forecourt in order to shut off these nuisances as far as possible. He has need of a studio for wood and metal work, an orangery for winter storage of shrubs, a loggia overlooking the garden, and a garage. A turning circle 70 feet in diameter must be allowed for motor-cars. Shew how his requirements may be best attained. The site falls 3 feet towards the south.

Drawings.—Plan, elevations and sections $\frac{1}{2}$ inch-1 foot. Details, $\frac{1}{2}$ inch-1 foot.



(b) A GROUP OF RESIDENTIAL FLATS standing on an open site arranged round a quadrangle which is 150 feet square. The buildings to be in two stories, and the flats generally to contain living-room, small kitchen and larder, two or three bedrooms, w.c. and bathroom. There is to be an arrangement of a central dining-room and kitchen, &c., with accommodation for servants to attend to this department, and also to give a limited amount of service in the flats.

Drawings.—Plans, elevation and section to $\frac{1}{2}$ -inch scale, and $\frac{1}{2}$ -inch detail of main entrance to quadrangle.

Dates for Submission of Designs in 1915-1916.

	Subject XXII.	Subject XXIII.	Subject XXIV.
United Kingdom	31st Aug.	31st Oct.	31st Dec.
Johannesburg	31st Oct.	31st Dec.	28th Feb.
Melbourne	30th Nov.	31st Jan.	31st Mar.
Sydney	30th Nov.	31st Jan.	31st Mar.
Toronto	30th Sept.	30th Nov.	31st Jan.



ARCHITECTURE AND EFFICIENCY.*

By W. S. PURCHON, M.A. [A.], Lecturer in Architecture at the University of Sheffield.

IT is perhaps somewhat difficult at a time like the present for architects to think calmly and quietly about architecture, yet, when we remember that in times of peace and prosperity we have little time for such thought, it may be that those of us who for some reason or other are unable to take up military duties, and because of the War are less busy than usual, may do some little service for the art we love by thinking about it; thinking first of the works of the great periods of the past and of the lessons which may be learnt from them, and then thinking of present-day movements in architecture to see whether we can separate the good from the bad in them. In speaking this evening on "Architecture and Efficiency" I do not, however, propose to deal other than indirectly with recent architecture.

In studying the works of architecture of the past, one is driven to the conclusion that, while there is much that we see and realise, there is also a certain amount which seems to have escaped us. The famous Greek temples, for instance, are seen to possess great beauty of proportion and remarkable refinement of detail. We may go further, and see how from humbler efforts the masterpiece was gradually evolved, or, looking still more closely into Greek architecture, we discover that what are apparently straight lines are really remarkably delicate curves, curves which we are told look straighter than straight lines would.

Having learnt so much, and possibly a little more, about Greek architecture, we then proceed to incorporate as many features from the Parthenon, or perhaps the Erechtheion, into our design for a pork-butcher's shop, a cinema theatre, or a church in Hanbridge; which goes to show that we have not realised that the Parthenon was a remarkably efficient solution of a definite problem.

About 440 years B.C. a temple was required on the Athenian Acropolis. It was to be used for a definite purpose, it was to be built of a beautiful material. Some of the greatest artists the world has known were available, and long experience had shown how best the requirements could be fulfilled, and what could be done with such a material in such a climate. The result was the Parthenon. Are we really so foolish as to think that were those artists with us here to-day, with our knowledge plus their own art, they would try with our materials and in our climate to make a building for some modern purpose look as much like the Parthenon as possible?

* This lecture was originally given in the Firth Hall of the University of Sheffield as one of a series of public lectures (see JOURNAL, 31st Jan. 1914, p. 202). It was afterwards slightly

modified so as to be somewhat less unsuitable for a professional audience, and read to the Birmingham Architectural Association, on 8th January 1915.

Let us now glance for a moment or two at some of the wonderful buildings of the Romans, buildings which all who know them rightly admire for their grandeur. First we will consider the rectangular temple at Nîmes, one of the finest and best preserved of its type. With the exception of certain modifications, made for reasons which need not be discussed here, this and many similar Roman temples follow closely on Greek precedent.

But the Romans required several types of buildings for which Greek methods would not answer; in the Colosseum, for instance, we may note that, while columns and entablatures are still used, they are now subsidiary to the pier and arch constructional scheme; in the great halls of the Basilica of Constantine and the various baths in which large areas of uninterrupted floor space were required, massive fire-resisting groined vaults, with windows introduced above the springing level, took the place of the timber roofs used in earlier days; while the Pantheon, a great building with an internal diameter of 142½ feet, was covered by a vast dome with a light-giving central opening.

Greek planning, like Greek construction, was a comparatively simple matter; the Roman architect had to strike out on fresh lines when he planned such a building as the Baths of Caracalla; while a glimpse at the plan of the Roman fora is sufficient to convince one that the skill in planning possessed by the Roman designers was not limited to single buildings, but extended to the efficient grouping of many.

What, then, is the great lesson taught by Roman architecture? Is it not that for new problems new solutions are required?

The text-books tell us how the orders used by the Romans differ from those used by the Greeks, the Roman Doric column being 8 diameters high, while the Greek one is but 5½, that the Romans "invented" the Tuscan and Composite orders, and so on. We spend much time in studying the differences between Greek and Roman mouldings and ornament; in comparatively rare cases we may even study from drawings a complete Roman building or two; but have we really got hold of the fundamental lesson taught by Roman architecture—new problems need new solutions? For often it is in the use of features modelled on the Greek that Roman architecture is weakest; the columns and entablatures, the metopes and triglyphs are sometimes unreal compared with the arch, the vault and the dome.

Byzantine architecture gave us wondrously delicate carving and beautiful mosaics, but these are trifles compared with its gift of the pendentive, a new solution for a new problem, the supporting of a dome on a square plan. The Basilica of Constantine with its groined vault was a great step, but Santa Sophia, Constantinople, while similar in plan to the Basilica, is enchanted poetry compared to the dull prose of the latter, not so much because of marble and mosaic, but rather because of its windowed dome, over 100 feet in diameter, magically poised on pendentives high over its centre, and so giving a culminating point to the interior.

In the cathedrals of the Middle Ages we quite rightly admire the beautiful ornament, the stained glass, the charming lines of the window tracery, the glorious sculptures of such buildings as Rheims and Amiens, and the daring with which the lofty vault of Beauvais was poised on slender supports, but I think we do not realise, or only dimly realise, the struggle towards perfect efficiency that was taking place when these buildings were being erected, the attempt to make the very best building for the definite purpose to which the structure would ultimately be put. We rarely see the deeper beauty which lies beneath the surface.

Towards the end of the Roman period columns were used as supports for arches, as, for instance, in the Palace of Diocletian, at Spalato. The Early Christian builders, who had to solve the interesting problem of rapidly providing inexpensive buildings for large congregations, used Roman columns with lintels, or in some cases, following the Spalato precedent, arches, to support clerestory walls on which rested timber roofs, the dossier being in many cases introduced between the column and arch so that a somewhat thicker wall could be supported. In some Romanesque and Early Gothic

buildings this use of the column supporting the arch is continued, while in others the support is based on the more customary type of pier with half-column in front, while the Gothic capital was gradually evolved from the Roman Corinthian capital plus the dossier.

The Early Christian churches, with their long rows of columns and their timber roofs, were far from being entirely satisfactory, and the builders of the eleventh and twelfth centuries strove to produce something more efficient. They took the general scheme of the Basilican church, welded to it the Byzantine centralised plan, and then endeavoured to make the whole building fire-resisting. In carrying out these ideas numerous difficulties were encountered, and one by one surmounted, until at last, with a beauty clear-cut and complete as that of a Greek temple, the Early Gothic cathedral was produced.

Let us glance for a moment at one or two stages in this development. A hall covered with a ribbed barrel vault, supported by a barrel-vaulted passage on each side, had been built by the Romans at Nîmes, and a number of early Romanesque churches in the south of France were constructed with barrel-vaulted naves supported by half-barrel vaults over the aisles, as in the church of S. Sernin, Toulouse. This method of construction allowed but little light to enter the upper part of the nave. The attempt was therefore made, as in the church of S. Etienne, Nevers, to balance the barrel vault on a clerestory, but, while this example still remains, many others must have collapsed. Making the barrel vault pointed, as at Beaune, instead of semicircular, considerably reduced the thrust, but the thrust was still difficult to resist, as it was continuous along the whole length of the vault, and applied at the top of the clerestory, and the latter had to be kept below the springing of the vault.

These difficulties appear to have been realised at Tournus, where a remarkably interesting experiment was tried. The barrel vaults instead of going along the church went across it, and were supported on arches which brought the thrust quite low down, and at the same time this scheme allowed windows to reach up to the highest point of the underside of the vault.

Elsewhere, as in the nave of Vézelay, it was found, as the Romans had found long before, that a groined vault allowed of a lofty light and at the same time brought the thrust low down and at definite points; and so the mediæval builders tried various methods of constructing groined vaults with semicircular arches. Even over a square vaulting bay this led to difficulties; hence the use of the sexpartite vault and the form used at the Abbaye-aux-Dames, Caen, in which the subsidiary cross-rib carries a vertical wall; but in vaulting the irregular spaces round the apse these difficulties were far greater, leading, for one thing, to the use of excessively stilted arches on the shortest span.

It was then discovered that all these difficulties disappeared with the use of the pointed arch. We are told to-day that this is an ugly device, and it was possibly thought an ugly device in the closing years of the twelfth century, for a new form is almost always considered ugly. It was, however, more suitable for the work required, more efficient; and so those who loved the old more than the new, not because it was better, but merely because it was older, had to give way, as they always will have to give way.

Some remarkably interesting problems had also to be worked out in connection with the supporting of these vaults. The barrel vaults over the early naves required half-barrel vaults over the aisles, and they also required thick walls, but the groined vaults brought their loads down on definite points, so that continuous thick walls were no longer useful, support being better given by boldly projecting buttresses and by flying buttresses carrying the thrusts over the aisles, the wall spaces between the buttresses becoming a glazed screen, even the triforium being glazed in some instances. How fascinating becomes the history of architectural development when we think less of trifles and more of essentials, when we think more of the struggle towards efficiency!

I have spoken of Roman planning, and we hear much of this nowadays, but the fine manner in which the mediæval builder solved the new problems which arose in the planning of his churches deserves to be remembered. The simpler plans of the earlier churches were not suitable for the needs

of his time, and he did not hesitate to strike out boldly on new lines. Surely the plans of the great churches at Bourges and Le Mans are fine examples of efficiency in architecture!

If, leaving the works of the Middle Ages, we pass on to the study of the buildings erected at a time when the thoughts of artists were turned to the glories of ancient Rome, we shall find that these buildings are not great in proportion to the extent to which they resemble the earlier masterpieces. One of the finest of all façades is that of the Riccardi Palace in Florence. Yet here the orders are not used; while in that of the Farnese Palace in Rome the orders play quite an insignificant part. The Late Renaissance Santa Maria della Salute in Venice is not beautiful because parts of it are based on classic precedent, but rather because it is a successful solution of an interesting problem, the proper connecting of an octagonal drum supporting a dome to the outer wall of an aisle which surrounds it.

Gothic art had a much stronger hold in France than in Italy, but the French nobles fighting in Italy towards the end of the fifteenth century brought back in their minds the glories of the new movement—which was, incidentally, a better way of treating the architecture of an enemy than that of wanton destruction. The result was the architecture of François I., a virile combination of Late French Gothic and the new ideas from Italy, a style which may not receive official sanction at the present time, but from which useful lessons can nevertheless be learnt. For during this period the French declined to sacrifice convenience to external effect, the general treatment of the exterior being invariably the natural result of the requirements of the building; the steep roofs and great dormers and chimneys are retained, while the details, far from being slavish copies of classic models, are full of freshness and life.

A time followed in France, as it followed elsewhere, during which it would seem that certain forms became fashionable; not, indeed, because they were particularly suitable for the purpose to which they were put, but because there was excellent precedent for them; and so we find, for example, steep roofs with flat pediments built in front of them. The flat pediment had been used by the ancients, and so was thought a good thing in itself. Buildings had therefore to be made to fit in with the flat pediment, though the French designer has never really liked to abandon his steep roofs. So that while there is much that we can learn of quiet dignity, stateliness and repose from the Later Renaissance in France, there is also something which we can learn from it to avoid.

It was an architecture of rules and regulations, and, as there are always those who wish to break away from the formalities of life, so there were those who sought to break away from the bonds of authority in architecture, to cast away all precedent, and to start afresh. It was a foolish effort; for, while precedent is a bad master, it is an excellent servant. But it must be said for the French that even in doing this foolish thing they did it far better than it has ever been done elsewhere, and most countries have tried their hands at it at one time or another.

Let us return for a moment to the more stately work of the Later French Renaissance, and read in it another lesson, one we may well take to heart; for at this time a great step forward was taken towards the making, not so much of efficient single buildings, but of efficient groups of buildings, even efficient cities.

The germ of this movement in France may be found at a very early date, and, while naturally some of the finest examples of its influence are to be found in the capital, its effect on many of the larger towns and cities of France is well worthy of careful study.

In Paris one naturally turns to the Place de la Concorde, with the bridge on the south leading to the Chamber of Deputies, on the east the Louvre, on the west the Champs Elysées leading to the Arc de l'Étoile, and on the north the Rue Royale leading to the Madeleine; while the view of the Panthéon at the end of the Rue Soufflot, or of Les Invalides, upon which several roads converge, serves to remind us of what might be done with our own St. Paul's.

Leaving Paris, we may well note the excellent scheme carried out about 1750 in Orléans, a town

with a population of about 70,000. A bridge was built over the river, and a street made in continuation of this was carried through to a fine square in the centre of the town. Just before reaching the square a street branches off to the right to form a fine approach road to the great church, and, incidentally, giving an excellent view of it; while quite near to the bridge a short street was cut diagonally, giving access to the market square and also giving another fine view of the church. From the side of the central square remote from the river two fine streets branch out, one reaching another fine open space, and the other now leading direct to the railway station. The tree-lined boulevard which surrounds this town, as is so often the case in French cities, is also well worthy of note. This scheme makes this town a very efficient one, the main buildings being easily seen and readily reached.

We in England are usually ashamed of our railway stations, hiding them away in the slums so that the stranger on arrival has to wander through a mile or so of mean streets before he reaches anything of importance. In France the idea of making the railway station a worthy building and of putting it at the head of a main street is steadily growing—the railway station is in fact taking the place of the Roman archway and the mediæval gateway as the modern entrance to the city.

To give one more example of town planning in France, let us take Nancy, of which we have heard so much recently. A comparatively small town of some 110,000 inhabitants, it exhibits some fine schemes of buildings and streets laid out about the middle of the eighteenth century. The Governor's Palace, with a space in front of it excellently treated with a hemicycle at each side, is at one end of a broad avenue. At the other end of this avenue is a triumphal arch giving access to a square, containing a central statue, and with a main road entering at the centre of each of three sides each leading to another fine archway. On the side opposite to the avenue from the Governor's Palace stands the Town Hall.

Surely fine buildings, well grouped and laid out with due consideration to the whole town scheme, are excellent examples of architectural efficiency.

From the work of the Renaissance period in England we may also learn some useful lessons. When Wren was asked to build some new chambers at Trinity College, Oxford, for instance, he was pressed to build a quadrangle. Wren realised that a quadrangle was wanted, not because it was the best form, but because previous chambers had been built on that plan, and he ultimately persuaded the authorities to accept something more efficient. Greenwich Hospital proves that Wren's vision reached beyond the single building. When he started here, two buildings had already been erected—the Queen's House and part of the King Charles building. While some of the buildings were designed by other architects, to Wren is due the credit for the scheme as a whole. But Wren could do more than the planning of a group of buildings, he could plan a city, and after the Fire of London, while the ruins were still smouldering, he prepared a remarkably fine plan for a new city. This was a splendid opportunity, but unfortunately advantage was not taken of it, England not having realised, as even now England has not realised, the value of efficiency in architecture. Wren was above all a believer in this efficiency, no mere maker of architectural scenery, as is proved by the way in which he tackled the designing of the Library of Trinity College, Cambridge. The interiors of his City churches also show that he saw clearly the problem which was put before him and then proceeded to solve it. To take one point only, he realised that galleries needed proper support, and provided it, as may be seen in the church of St. James, Piccadilly.

Some of the men who followed Wren, notwithstanding the fine examples which already existed, failed to see the problem before them, or, seeing it, they shirked it. Gibbs, for instance, in St. Martin's-in-the-Fields, ran his gallery in a very haphazard fashion into the middle of the columns.

This brings me to a point which I think a very important one: it is this, if we are to benefit from a study of the architecture of the past we must see its failures as well as its successes.

During the eighteenth and nineteenth centuries in England and elsewhere it was seen that the great buildings of the past were full of beauty, but it was not always realised that a great deal of their

beauty was due to the fact that they were efficient solutions of definite problems—problems in which the local climate, the customs of the time, and the particular sites on which they were erected played a considerable part.

As a result of this lack of understanding, buildings were erected in England which were quite unsuitable to the climate or to the needs of the time. Instead of seeing their own problem clearly and trying to arrive at the most efficient solution, the architects of various revivals often neglected important factors in their own problem in order that their building might resemble some famous masterpiece. Such, for instance, was the case when William Kent built a villa at Chiswick on the lines of Palladio's villa at Vicenza, when Wilkins built Downing College, Cambridge, and when Inwood built the church of St. Pancras. Even worse is the attempt which has sometimes been made to copy not only the forms of older buildings, but also their dilapidated appearance.

It is perhaps particularly important at the present time that we should realise the folly of making the use of a building subservient to its external appearance. To Vanbrugh, for example, the appearance of a building was the great thing; a great impression had to be created at no matter what cost in convenience; there had to be a central block, and there had to be two wings. Luckily the house got into the central block, the kitchens into one wing and the stables into another; but, if I know anything of Vanbrugh, he would cheerfully have put the stables in the middle block, the kitchens in one wing and the house in the other if he could have got a better external effect out of this arrangement. For Vanbrugh in much of his work was a scenic artist first and an architect afterwards.

The hero of one of the most interesting of Mr. H. G. Wells's ingenious romances, *The Time Machine*, invented an apparatus which enabled him to travel, not in space, but in time. We have just been enabled, by means of the lantern slides, to travel through both space and time; but, unfortunately, unlike Wells's hero, we are unable to see clearly into the future. We can, however, look carefully into the present state of our art and try to discover how we can best help to give it a great future.

I know there are those who are afraid of what they call efficiency in architecture, but what they are afraid of is, as a rule, not efficiency in architecture at all. Some, for instance, are really afraid of efficiency in draughtsmanship, and I quite agree that we may think so much about drawing that we shall presently forget all about architecture. For students to spend a large proportion of the available time in the laborious casting of shadows is not, as a matter of fact, leading towards efficiency in architecture, rather is it leading away from it.

And then there is the fear that we may turn out "efficient" but inartistic architecture. This is, of course, an impossible combination, but it is certainly possible for architects to think only of a kind of utility and to forget beauty, though the results of their labours would in all probability not be examples of efficiency in architecture. For while buildings cannot be fully beautiful if they are not thoroughly efficient, in the utilitarian sense, it is at the same time true that they cannot be fully efficient if they are not beautiful. It is only the ignorant who would consider the only too familiar plate-glass type of shop more efficient than the fine example recently built for Messrs. Burberry by Mr. Walter Cave.

The real danger, however, at the present time, is that of neglecting utility in the attempt to get a sham beauty, because we do not realise fully enough that beauty in architecture must be based on utility, it must grow up out of the requirements of the building, the nature of the materials used and the nature of the environment.

I am firmly of opinion that for the welfare of architecture it is necessary that the people should be interested in it, and for that reason (among others) I hold that a knowledge of architecture should be considered an essential part of a liberal education, as is a knowledge of literature. Our Universities should not only award degrees in architecture to professional students, but architecture should be an optional subject for the ordinary Arts degree. For those who are unable to obtain the advantages of a University education, lectures on architecture should be provided by University Extension and Workers' Educational Association courses.

Such lectures should deal not only with historical matters, as they have in the past, but also with modern architecture and the principles of the art, and so help to show the public the value of efficiency in architecture. The average man has the idea that if he employs an architect he *may* get a building of pleasing appearance, but that he will probably get a less convenient, and certainly a more expensive, one. The various architectural societies should certainly press for the education of the public in matters architectural.

If the suggestions which I have made were carried into effect such houses as those shown on the screen (a typical slum) would not be allowed to exist; and yet, if one goes into the average English city and asks for Paradise Alley, one is invariably directed to something of this kind. Is it not remarkable that while we think so highly of efficiency in such things as motor cars, bicycles, gramophones and football, we do not realise that the existence of such buildings as these is no economy, but a gross extravagance which no community is sufficiently wealthy to afford?

Apart from houses which are so obviously bad that it is unnecessary to draw attention to special faults, there are vast numbers in many of our towns which will pass a somewhat low test in certain branches of sanitation and quality of building, but which are more or less inconvenient, and certainly painfully ugly. Mr. H. G. Wells, in *Tono Bungay*, puts this matter very clearly: "I took it as in the nature of things. I did not see the oddness of solvent, decent people living in habitations so clearly neither designed nor adapted for their needs, so wasteful of labour and so devoid of beauty. It is only now that I find myself thinking of the essential absurdity of an intelligent community living in such makeshift homes. It strikes me as the next thing to wearing second-hand clothes." Of course, we know the defects of most of these houses: the front door opening into a long, narrow passage or direct into the front room, the back room rendered dark and airless by the long back projection, and so on; and we know of better, more efficient, arrangements.

There is also the general question of the arranging of houses with reference to the site, a question usually dealt with in very simple fashion. One plan is arranged, and houses are built in conformity with it on both sides of all the streets, regardless of the points of the compass. So that people who like the sun in their sitting-rooms live on one side of the street, while those who prefer it in their larders live on the other. Ample provision is also made for those who do not like the sun at all.

When we have got the houses well and conveniently planned, properly arranged on the site with regard to the points of the compass, properly ventilated and warmed, and, in fact, with all questions relating to physical well-being properly attended to, there still remains, before the houses can be considered efficient dwellings for human beings, the question of giving them some dignity and beauty. For the sub-human animals buildings which are merely well built and sanitary may suffice, but the human needs more than these things—he needs beauty. It is not necessarily more expensive to make a house pleasing in appearance than otherwise—we have all seen houses which could have been built more cheaply and yet made more beautiful.

There is also an æsthetic side to the question of the siting of houses. Long rows of small houses, even if well designed, tend to become wearisome and monotonous, and they are rarely well designed. The other day, while preparing some notes for this Paper, I picked up a book by Jerome, *Paul Kever*. This is the opening sentence: "At the corner of a long, straight street in the far east end of London—one of those lifeless streets made of two drab walls upon which the level lines formed by the precisely even window-sills and doorsteps stretch in weary perspective from end to end, suggesting petrified diagrams proving dead problems—stands a house which ever draws me to it." This might well have been written of the street shown on the screen, a street which is quite close to one of our best garden suburbs.

If we look at this typical plan of part of a great modern English city with its row after row of little houses, probably all exactly alike, arranged on each side of more or less straight streets, we can only see in it the essence of dullness, there is nothing in it to suggest the attempt to make an efficient city, nothing

to show that we have learnt one of the lessons taught by the eighteenth century, nothing to show that we have realised the influence of architecture on human life.

Lord Milner, speaking at the Royal Institute of British Architects some little time ago,* said : " Any man who does good service to architecture does good service to the State. Of all the arts this is perhaps the one which has the widest range of influence, and the welfare of which is of the most vital importance to the great body of the community. We may—I am afraid many of us do—pass through life untouched by the other arts, except possibly music, although I know many people who are untouched even by that, but it is impossible to escape from architecture. Consciously or unconsciously, the Mistress Art has got us all in her grip. Whether the experience is elevating or depressing, pleasant or painful, we are all exposed to her influence. And for that reason I say that anything which is calculated to raise the level of architecture, to keep up its highest traditions, and possibly some day to bring us back to something like an accepted standard, is of the greatest importance to the whole community."

And what, I would ask you, can be done to raise the standard of architecture ?

With all our knowledge of the great architectures of the past, with our knowledge of the great strides in sanitation made during the last century, far better things can be done, and are being done, than those which I have just been showing. But if architecture is to become a great living art, an art of moment to the people as a whole, certain steps will have to be taken. We must, as I have already suggested, do all in our power to interest the people in our art. We must also strive to gain and to keep up a reputation, not as producers of fashionable façades, but as efficient architects, designers of houses, shops, schools, churches and cities which are efficient in the fullest sense of the word. In order that this may be done our students must first receive as sound a general education as possible,† and then their training as architects must be on broad rather than on narrow lines. The architecture of the past must be studied not so that its details may be reproduced, but so that its lessons may be learnt. We must try to bear in mind, in fact, that we have not just heard for the first time of the glories of Greece and of Rome, or of the Middle Ages, and that we are not living in the formal atmosphere of the eighteenth century.

In designing a plan, elevation or detail we should be thinking constantly, not whether it resembles Greek, Roman or Georgian work, or even whether it resembles the work which won the last competition, but whether it is the best for its purpose and the best for our own particular city in the twentieth century.

We need, too, a keener criticism of architecture. The works of our brother artists, the painters and writers, are subjected to searching criticism, and these arts are all the better for it ; but there is no systematic criticism of architecture. And when our buildings ultimately come before the great critic, Time, those that stand the test will not be the ones which follow most closely Greek, Roman, Mediæval or Renaissance precedent, but those which are the finest solutions of the special problems of our own needs, place and time.

* See R.I.B.A. JOURNAL, 8 NOV. 1913.

† The recent abandoning by the R.I.B.A. of its own Preliminary Examination is a fine step in this direction.



TOWN PLANNING IN AUSTRALIA AND NEW ZEALAND.

By W. R. DAVIDGE [A.].

THE characteristics of Colonial town-planning and the laying-out of Colonial towns have in the past been governed by three main principles: First, that the land should be expeditiously surveyed; secondly, that the town plan should be even more expeditiously designed; and lastly, that the plots should be most expeditiously pegged out and disposed of. To state that land has been "surveyed" has in the Colonies accordingly grown to mean the actual cutting up into plots. As a consequence of the first of these, nearly all Colonial towns have been surveyed either at right angles to a river, or on a north and south meridian; as a consequence of the second requirement, nearly all streets have been planned and laid out at right angles (except in such rare instances as the nature of the ground absolutely forbade); and as a consequence of the last requirement, the roads are mostly 1 chain (66 feet) wide,* and building blocks are in some size that will divide neatly and comfortably into ten-acre blocks, which in turn can be subdivided into acres and quarter-acres. With this mathematical arrangement there was at the same time a broad appreciation of the value of open spaces and generous treatment of street widths.



Melbourne suburb, back street.

The early plan of Melbourne, for instance, laid out in 1837 by Robert Hordle, was arranged with the main streets, such as Collins Street and Bourke Street, a chain and a half (99 feet) wide both north and south and east and west. The land was then divided into 10-acre blocks, and at the suggestion of Governor Bourke back roads were laid out to give access to the back of each settler's "allotment."

These back roads were made $\frac{1}{2}$ chain (33 feet) wide,

* 10 square chains = 1 acre.

and at the present day form some of the most important business streets in Melbourne. Their names, such as Little Collins Street and Little Bourke Street, amply testify to their origin. As the adjoining districts became surveyed, the surrounding farm land was divided into huge rectangular blocks, bounded by farm roads north and south and east and west, at intervals generally of 1 mile.

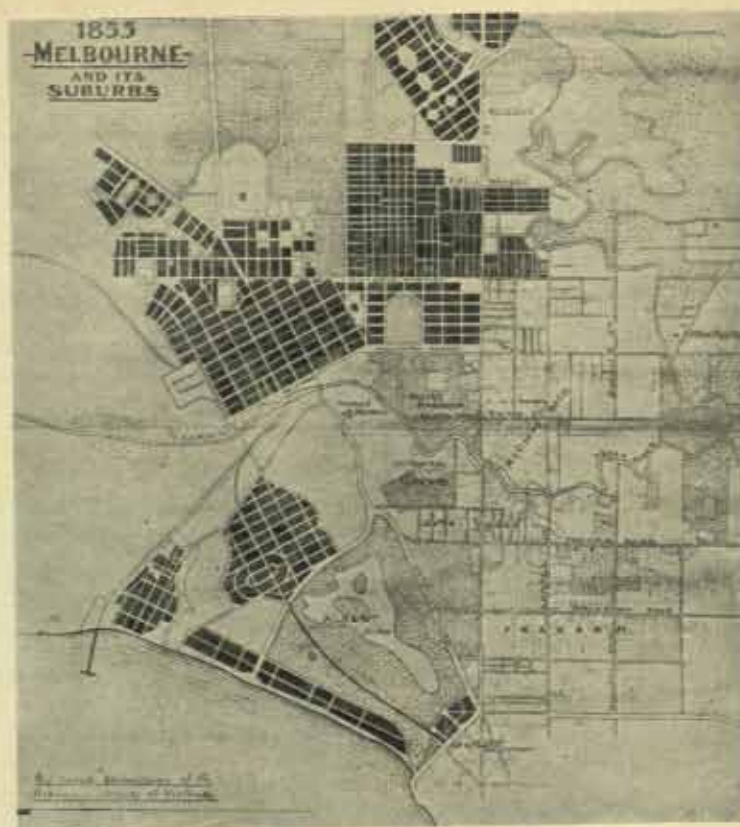
The later development plan of Melbourne suburbs is particularly interesting as showing a number of suburban settlements formed in the early 'fifties of last century, but each now merging into the north



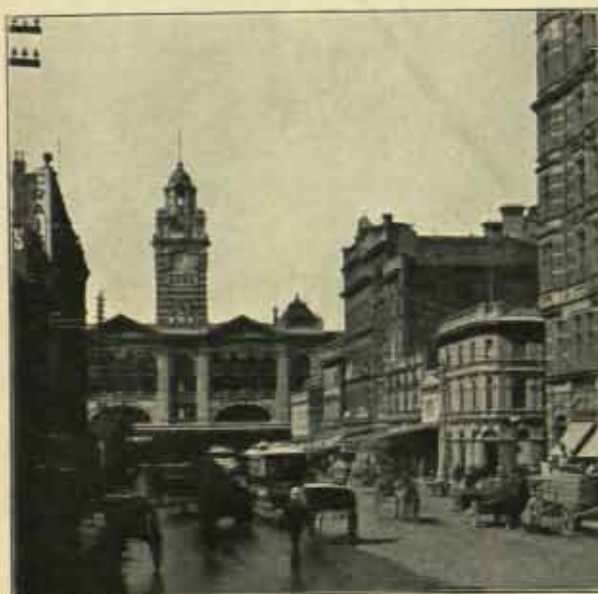
Melbourne: Little Collins Street, 33 ft. wide, originally laid out as back-way to settlers' allotment.

and south gridiron pattern of the Government surveyor. There are very few radiating roads.

Such diagonal routes as exist are survivals of the early days before the land was completely surveyed on north and south lines, and it is very evident to the most casual visitor to Melbourne that it is these very diagonal roads which are most largely used by the suburban traffic radiating from the city. The St. Kilda Road is one of the most important of these thoroughfares, and takes almost the whole of the traffic to the suburbs south of the Yarra.



Melbourne in 1853, showing suburban development.
The later suburbs are faintly indicated and show the influence of the north and south meridian lines.



Melbourne: Flinders Street, Railway Station.

MELBOURNE RAILWAY STATIONS.



Melbourne: Flinders Street, Railway Station.

From the traffic point of view the practical objections to the rectangular block system, in addition to the extra distance traversed, is that, in the absence of any definite main road, all roads are alike, and motor

maximum of sunlight to each street, but this is open to considerable argument, and it is evident that the east and west streets should on this theory be made considerably wider.

There are, however, in the smaller towns of Australia several notable exceptions to this rule, in which the general axis line of the town is as nearly as possible inclined at 45 degrees, that is on a line from south-west to north-east, and such an arrangement undoubtedly gives a more equable distribution of sunlight and shade.

The climatic conditions in Australia have naturally had considerable influence on the buildings, and it will be remembered that houses of a wide-spreading one-story bungalow type are predominant everywhere in the country districts. With the exception of the few diagonally planned towns already mentioned, climatic considerations do not seem to have had any



Melbourne: Collins Street, showing Cable Cars.

or other fast traffic has to take serious risks at every corner. Modern Melbourne has many fine buildings, but its plan remains that laid down by its founders seventy years ago. Additional radial routes will undoubtedly be needed in the near future if the traffic is to be properly distributed, and the present system of slow, jog-trot cable trams will inevitably



Bundle Street, Adelaide, showing Street Verandahs.

weight in the planning of streets, but wide-spreading verandahs are universal everywhere, and the verandahs constructed over the side walks in business streets are sometimes of a decidedly "mixed" character.

The idea of covering in the side walks in this way has much to commend it, if the work is executed in accordance with a general scheme of street elevation, but this involves a difficult problem in administration. Many proposals have been made for regulating the construction of verandahs over the public street both in New Zealand and Australia, but little success has so far been achieved, and in many cases the heterogeneous collection of advertisements, corrugated iron roofs and wooden posts forms a serious eyesore in the principal streets. For hotels and similar buildings it is customary to have a covered balcony on one or more floors constructed over the public footway, and this feature is one that is much appreciated throughout the colonies.

Tree-planting is the exception rather than the rule, but the wide stretches of grass at the sides of the



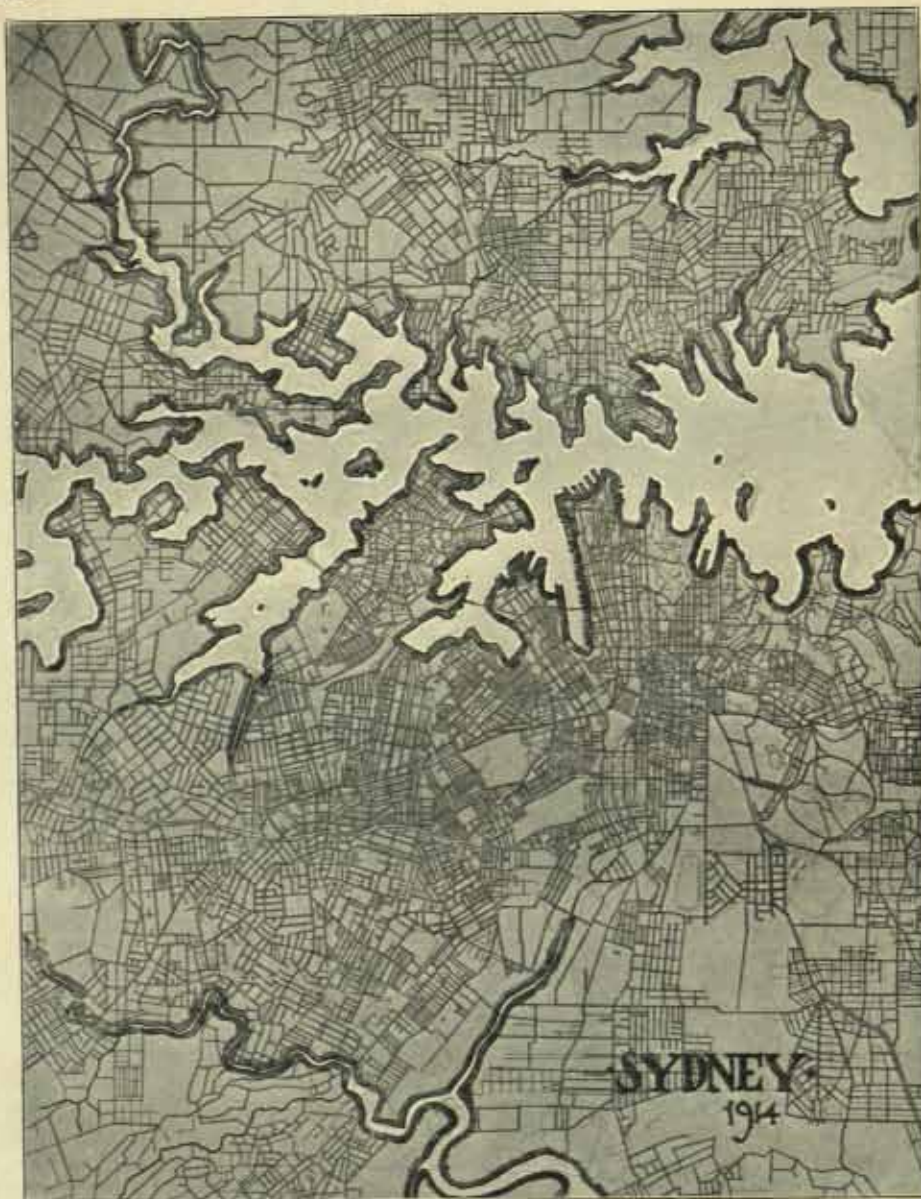
Typical Country Stock Road, Australia, 3 chains wide.

give place to swifter means of progression in all directions.

The earlier practice of laying out the main streets as far as possible at right angles to the general direction of the river or harbour on which the settlement was formed gives way almost everywhere in the later plans of development in favour of the easily set out north and south meridians. It has been urged that this north and south arrangement of streets gives the

broad 3-chain "stock roads," everywhere to be found, offer great possibilities in this direction, although it must not be forgotten that prolonged periods of drought present difficulties from this point of view. The great width of these roads was originally

The practice of "ring-barking" the timber, however, is very general, and whole areas of forest land are filled only with gaunt grey tree trunks, many of them ready to fall. Even in this last stage, however, the Australian landscape has a peculiar charm and



intended to provide for driving cattle, sheep, and other stock over considerable distances, and to allow for pasturage by the wayside.

The almost innumerable varieties of gum-tree to be found throughout Australia are a great asset, with their wonderful shades of foliage ranging from blue-green to delicate tints of grey and orange, and in many of the country districts the red soil and varied foliage form a gorgeous feast to the eye in the glorious sunshine.

delicacy of tint which must be seen to be properly appreciated.

The oldest of the large towns of Australia is, of course, Sydney. The natural position of Sydney is a magnificent one. The first settlement at the head of the little cove known as Circular Quay has in the course of a century and a quarter grown into one of the most prosperous business quarters of the Empire. The earlier suburbs are, it is true, of very straggly growth, but across the harbour, each in its own

sheltered cove, lie half a dozen or so detached modern suburbs, each a thriving township, and brought within a quarter of an hour or so of the centre of the city by an admirable system of direct ferries running with clockwork regularity, and branching out from Circular Quay in all directions. Such a system has many advantages over the radiating main roads of the ordinary town. Sydney Harbour has a total water frontage of 900 miles, and the city has had unique opportunities of making the most of its water front. Opportunity after opportunity has, however, unfortunately been lost, and there is much headway to be made up. With the proposed construction of a high level bridge across the harbour further rapid developments may be expected, especially in the suburbs on the north shore.

A report on the Suggested Improvements of the City of Sydney and its Suburbs, by Mr. A. R. Jemmett, appeared in the JOURNAL R.I.B.A. in 1910 (Vol. XVII., p. 533).



Mosman Bay, Sydney Harbour.

The first town plan of Sydney, prepared by Governor Phillip on his arrival in 1788, was on a most lavish scale. This may be judged from the fact that the principal main streets were to be two hundred feet wide. The hilly and rocky nature of the site, however, and the limited space available soon reduced these dimensions, and in 1823 we find an official report in which we read that the width of streets was 60 feet, with the houses set back 20 feet on each side. Evidently the influence of the progressive ideas which many public men in England felt at that date had extended to Australia. Provision was, even in the early days, expressly made for future widening, for we read in the report of 1823*: "The rule for building first adopted in Sydney was that of placing the houses 20 feet from the footway of each street, and leaving 60 feet for the breadth of the streets (100 feet in all). The intervening spaces between the houses and the footpaths are generally occupied by gardens in the upper part of the town, and separated from the street by low palings. This space, however, is liable to be

taken for the improvement of the streets when required, and all projections that have been made by buildings or otherwise are liable to be removed. . . ."



National Art Gallery, Sydney.

In Crown grants "a reserve is made to the Crown of the space of 20 feet in front of the house, in case it should be required for widening the street."

Most of the 60-foot streets of the early nineteenth century still remain in Sydney, but the 20-foot forecourts "reserved for widening" have long since disappeared. The modern map of Sydney and its suburbs is largely "without shape and void," but here and there one can trace on it the efforts of the competing ideals: the commercial needs of the town represented by the original bullock tracks radiating in various directions, and to a certain extent influenced by the steepness of hills here and there, and the opposite extreme marked out by the official Government land surveyor with his 50-acre blocks and north and south meridian roads at intervals of half a mile or so apart, each striving in its own way to bring order out of chaos.

In recent years the statutory width of all streets has been made compulsorily 66 feet, and there can be



no denying that this has been of great benefit in securing adequate distance between the buildings. There are still remaining some of the early stone buildings of the colony of New South Wales, and these are solidly built, but of simple and pleasing architectural proportions.

* Commissioner J. T. Bigge, reporting to Earl Bathurst.

The Court House at Hartley, 60 miles west of Sydney, shows that even in the convict days the buildings were in no mean standard of taste.

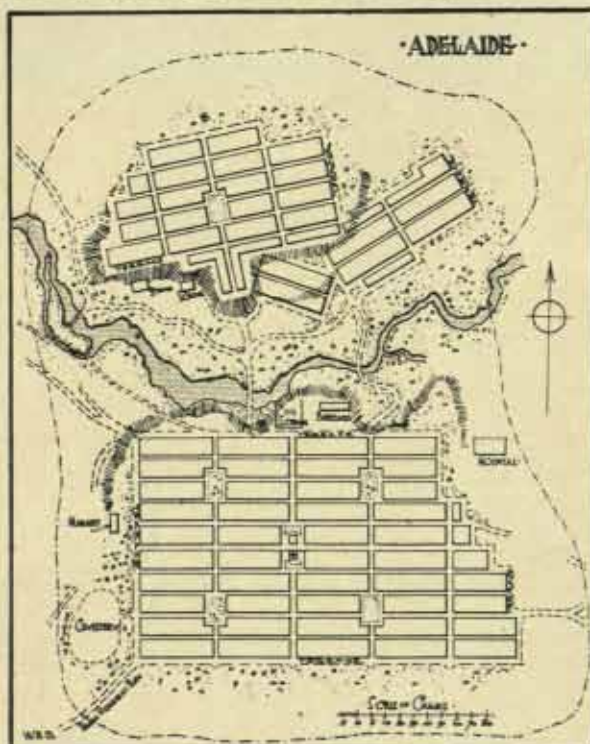
Many were the ideas imported, or rather "transported," from England. As early as 1810 Governor Macquarie introduced *en bloc* into the Sydney building administration the provisions of the London Building Act of that date.* This, although no doubt an excellent Act in its way, and one which had a good effect on the character of the early buildings in Sydney, must have been unduly onerous, and twenty years later we find strongly worded petitions from at least one architect and a large number of

The great emigration movement to the British Colonies in the early 'thirties and 'forties offered a magnificent chance for putting into practice those ideas which in the home country had suffered from lack of opportunity.

Colonising companies there were in plenty, and amongst these one of the most noteworthy was the National Colonisation Society founded in London in 1830, with which was connected Edward Gibbon Wakefield, who at the same time was doing so much for the development of New Zealand.

In 1834 Parliament passed an Act establishing the Colony of South Australia under a board of eight Commissioners, and in 1836 the first eight vessels arrived with immigrants.

Colonel Wm. Light was appointed Surveyor-General for the province of South Australia, with full power from the Commissioners to establish the city



Plan of Adelaide and North Adelaide, as laid out by Col. Light, 1837. (Both town and suburb surrounded by park lands.)

property owners asking that the provisions of the Building Act might be relaxed; and this agitation was eventually successful in achieving the repeal of the enactment.

The founding of the City of Adelaide in the early part of 1837 struck a new note in town-planning. For some years there had been discussions in England as to the ideal form a town should take. For nearly 20 years previously the "garden city" idea of a town completely planned from its inception had met with approval.

Benjamin Richardson and others had each planned their Utopian city, complete in itself and surrounded by a wide belt of open country or park land, but so far none of these ideals had come to fruition.



Adelaide: View of North Terrace.

in such position as he thought best. There were many difficulties in fixing the location of a new township in a broad flat country some miles from the sea, and Colonel Light had much opposition to encounter; but eventually Light selected the site of the new city and prepared the plan. The outstanding feature of the Adelaide plan is, of course, the belt of park lands surrounding the city. Whether this feature was due to Colonel Light or to Wakefield, it is difficult to say, but in view of the fact that many of the cities laid out by the New Zealand Land Co. were provided with this open "town belt," it is probably due to Wakefield. A note on Light's first plan, however, states: "The dark green round the town I proposed to the Resident Commissioner to be reserved as park grounds." The regular rectangular plan of the city itself, as prepared by Colonel Light, was largely due to the fact that some hundreds of colonists were clamouring for sites, and it was necessary to survey and set them out without delay. Probably a canvas town was erected immediately.

Each colonist was given one town site in Adelaide itself in addition to the farm land allotted to him

* London Building Act of 1774.

beyond the limits of the city. Altogether there were to be provided 1,000 town acres, a part of which were, however, at the port six miles away.

The survey and staking off of the town sections were commenced on the 11th January, 1837, and finished on the 10th March. On the 15th March a meeting took place to decide on a method for drawing lots for the town sections. The remaining town acres were then sold for the benefit of the colony.

The Central Square and four other open squares were planned almost exactly on the lines of Wm. Penn's original plan for Philadelphia, but on a broader scale. The plan of Adelaide is well worthy of study, and especially perhaps in view of the later development of the city.

The limited area of the original town was contained in a rectangle about 1 mile by $1\frac{1}{2}$ mile, and any further growth of the city had to take place outside the line of the park lands. This was provided for by Colonel Light in the case of the first constructed suburb—North Adelaide—by an extension of the park lands to surround the suburb; but with later suburbs this ideal



Kensington Gardens, near Adelaide.

was discontinued. Outside the limit of the park lands several radiating roads were provided, running in diagonal directions, principal among which is the road leading north-west to Port Adelaide.

Colonel Light's plan recognised the importance of providing an open space within easy reach of every house, and with the increasing use of the older portion of the city for commercial purposes these open spaces, and particularly the park lands, will become of additional value to the inhabitants.

In common with all towns laid out with sites of lavish dimensions, there has been evident a disposition to "subdivide" the original blocks, and especially in the suburbs are to be found instances of narrow ways, not part of the original plan, but constructed to obtain a more intensive use of the available land.

The number of houses per acre is, of course, everywhere much smaller in Australia than in England. The general type of one-story bungalow building in

itself involves that each house spreads over more than twice the ground a house of the same number of rooms would require in England. It is said that the



Customs House, Brisbane.

average number of houses per acre in Greater Melbourne is less than 3 per acre, and this can be well understood, but in spite of this there are districts where relative overcrowding occurs, and the fact speaks volumes that in Melbourne at the present time a Royal Commission is sitting to consider the question of the unsatisfactory housing conditions that undoubtedly in many places exist.

The multiplicity of municipalities, each entirely independent of the other, and the absence of control by a Government department similar to our Local Government Board, add considerably to the difficulties of efficient town planning.

The failure of the rectangular plan is very strongly marked wherever it occurs in towns built on undulating or hilly country.

In some of the suburbs of Brisbane, for instance, the road grades are almost as much as 1 in 3. This



Parliament House, Brisbane.

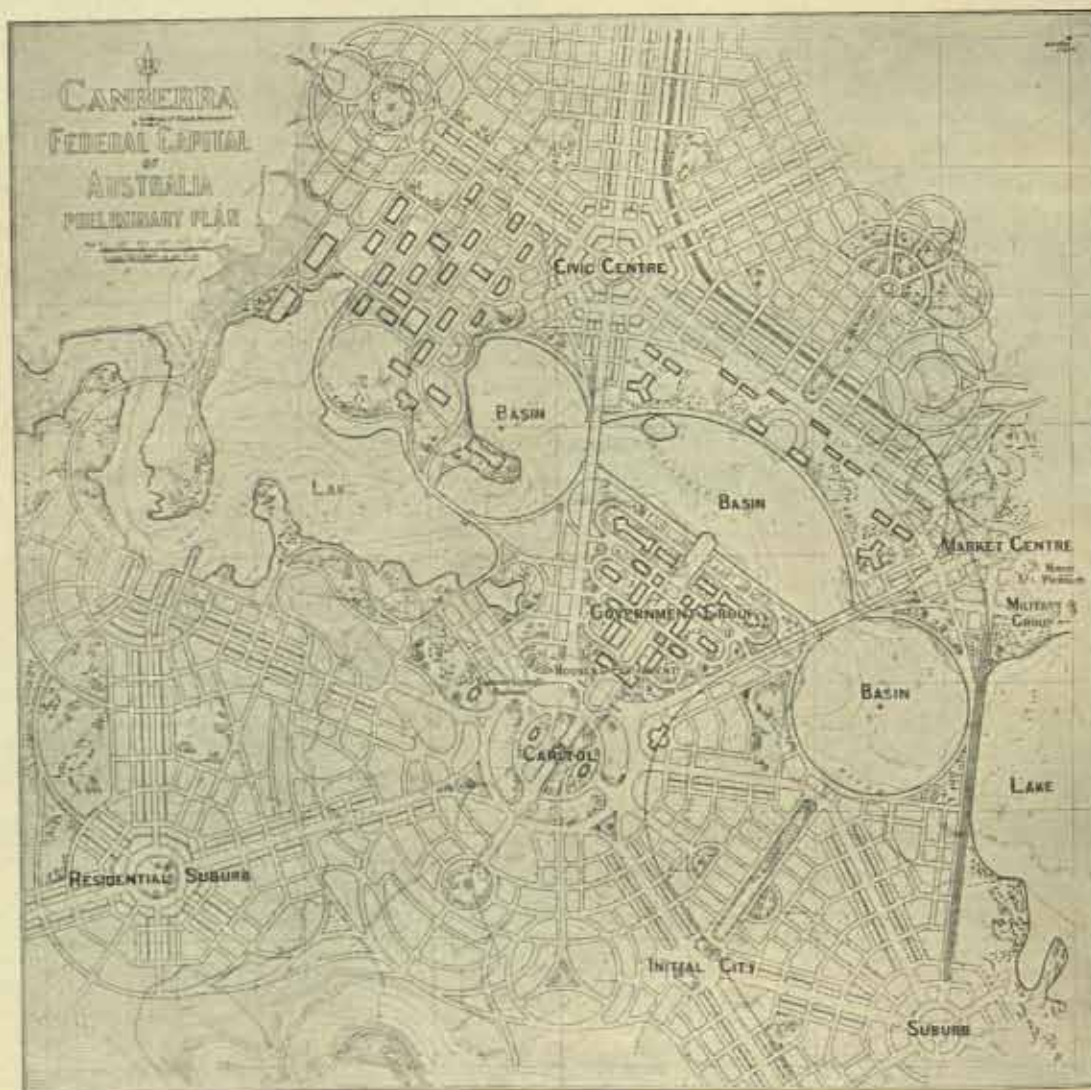
sort of road planning savours more of the estate agent than of the engineer, and the architect has hardly

even been thought of. Commanding sites, eminently suitable for an important public building, are ruled over in straight lines, and long straight rows of corrugated iron roofs struggling over hill and valley testify to the need for a more scientific as well as a more artistic mode of town development. In a brick building the waste in extra foundations is of course considerable, but in Queensland most of the houses are of wood and raised on wood posts well above the ground as a protection from the white ant. On each post is a projecting sheet of metal, like an inverted tea-tray, as an additional protection against these pests.

The older portion of Brisbane is on a more level site, and the Government buildings are well placed on the banks of the Brisbane River. The Parliament House and Customs House are both very effective buildings, and the newer Government buildings maintain the same high standard.

Many of the smaller towns of Australia on the rectangular block plan are admirable in the way in which they have been laid out. Albury and Bathurst in New South Wales, Ballarat in Victoria, and others are especially noteworthy in the foresight which the town authorities have shown in the acquirement of open spaces and tree planting. For a town of limited size there are very few objections and many conveniences in the rectangular plan, and one can well understand how this plan arose in practically every case where a township had to be established in a limited time. Many of the early settlements were planned within a rectangle a mile square, or in some cases a mile wide and slightly greater length.

The immense distances separating the various Australian Colonies kept them for well-nigh three generations as entirely separate States, each with its own laws and its own railway system. So far apart were



New Federal Capital of Australia: Revised Plan. W. Burley Griffin, Architect.

the States that no thought of linking them up could have prevailed, and the principal States each adopted their own railway gauge :

South Australia and Victoria, 5 ft. 0 in. gauge ;

New South Wales, 4 ft. 8½ in. gauge ;

Queensland, 3 ft. 6 in. gauge,

not to mention many other light railways of lesser gauge. This change of gauge even to-day necessitates a break of journey at the State borders, and it is not so many years since tariffs and custom houses separated these rival " countries."

With the inauguration of the Commonwealth of Australia and the coming of the Federal Government, however, steps were taken to lessen these inconveniences. Post offices and national defence are already a Federal concern, and the railways will in due course no doubt come under one administration.

From the town-planning point of view, however, the projected Federal Capital at Canberra is already a subject of world-wide interest. The design of Mr. Walter Burley Griffin, of Chicago, is a fine one, and it is to be hoped that it will be put into execution at an early date. Already large sums of money have been spent on water-works and other preliminaries, but so far little has been done on the site itself, and it is feared that the present difficult time will still further retard the proposal. The Federal territory is some 200 miles south-west of Sydney, and the site chosen for the new capital is an admirable one for the purpose. Set in a natural basin of hills, between which wanders the little river Molonglo, there are few finer sites anywhere. The present sparseness of water will, when the design is finally carried out, be exchanged for some miles of ornamental water in front of the city, and the public buildings are intended to be grouped, terrace above terrace, crowned by the Parliament building.

The revised design is illustrated on page 444.



Plan of portion of an irrigation Township, laid out by the New South Wales Government.

Although little has at present been done to the new Capital, the various State Governments have many smaller undertakings in hand. The new townships recently laid out by the New South Wales Government at Leeton and Yanco in connection with the Murrumbidgee Irrigation Scheme, and the housing colony at Daceyville, are both interesting experiments which show how great is the interest taken in the subject, while already the magic term " Garden Suburb " has been adopted by estate owners in various localities.

NEW ZEALAND.

When we come to New Zealand we find the problem of laying out the early townships was dealt with on somewhat similar lines, but on very different sites to the Australian towns. With the exception of Invercargill and the flat plan on which the city of Christchurch is built, the majority of the towns are on



Dunedin : Town Belt.

steeply undulating sites, and it is remarkable that three out of the four great cities of New Zealand are laid out in regular lines, and still more remarkable that in most of the early settlements a " town belt " of continuous open land was reserved around the town.

Traces of this " town belt " of open land are still to be met with round New Plymouth and Christchurch ; and where it remains intact, as in the case of Dunedin, and to a large degree at Wellington, it forms a singularly attractive feature, and, from the natural and undulating character of the ground, superior even to the attractions of the famous " park lands " surrounding the city of Adelaide. There has, it is true, been a rooted antipathy to trees, especially perhaps to the " pinus insignis," but this objection is losing weight, and " Arbor Day " is becoming increasingly popular in the Dominion.

A view of a portion of the town belt at Dunedin, N.Z., will make this clear. Dunedin in many respects aims at rivalling Edinburgh, and practically every

street and suburb in the New Zealand town has its counterpart in the Scottish capital. Portobello, Corstorphine, Roslyn, are names that rise to one's mind.

The rapid development of many colonial towns under this vigorous Scottish stock is especially noteworthy. A comparison, for instance, of Princes

width is proving a very serious matter, and proposals are afoot for tree planting or otherwise utilising this wilderness of street width.

The characteristic wooden weatherboard buildings with corrugated iron roofs, which constitute the bulk of the residential districts on the outskirts of all New Zealand towns, are well shown in the general view



Dunedin: Princes Street in 1860.

Street, Dunedin, in 1860 with the same street to-day shows the march of time.

Invercargill, at the extreme south of New Zealand, is noted for its unusual width of streets, but the town, owing to its isolated position, has not grown to the same extent.



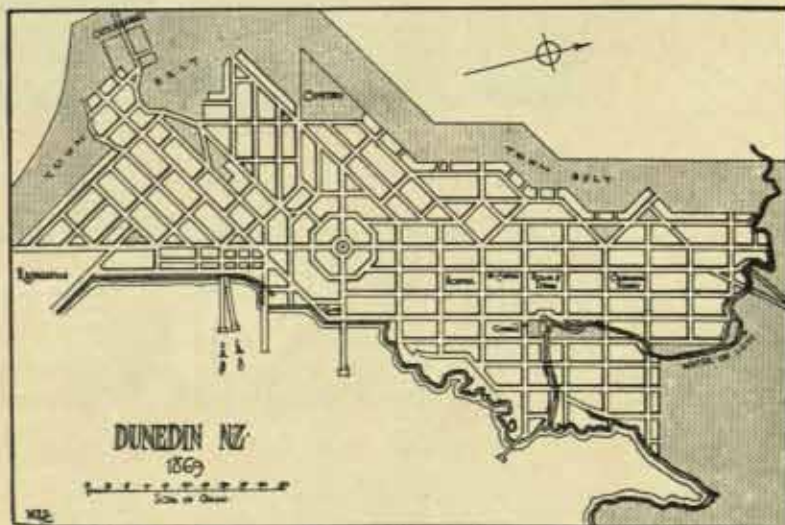
Dunedin: Princes Street to-day (taken from the same spot as the 1860 photo.).

of Invercargill on page 448. In most towns it is customary for the municipal authorities to prescribe a "brick area" in the centre or business portion of the town, but as a rule this is of very limited extent.

The general law as to street widths in New Zealand is that all new streets are required to be at least 66 feet wide, and that in each "township," no matter how small, there must be one principal street 99 feet in width. This latter requirement occasionally leads to considerable difficulties, as a township may in some cases consist of a few acres only, and there is apparently very little, if any, power to lay down where such street shall lead to or from. It is illegal to transfer land unless the streets are of the statutory width.

A very interesting experiment has been made in New Zealand (and also in Queensland) in attempting to limit the number of houses which may be crowded on to an acre. The restriction takes the form of a minimum size of lot—one-tenth of an acre—which may be bought or sold.

It is probable, however, that this restriction was introduced more for convenience in land registry, as one finds numerous cases where houses are built to a greater density than this. The detached wooden cottage on its own quarter-acre section, however, still holds the field in popular favour.



Dunedin, N.Z., laid out with "town belt" of public land surrounding the town.

From the view of Dee Street, the principal business street, it will be seen how excessive is this width for a town of limited population, and the keen winds from the Antarctic have every opportunity of making themselves felt in every part of the town. The cost of macadam and maintenance for such an extreme

A disadvantage in town development which has been much felt in New Zealand as well as in Canada and other growing dominions is that the railways have in nearly all cases taken the line of least resistance, and occupied the best position along the water front or seashore, and at such a level that the lines can only be crossed by occasional level crossings.

With the growth of the town communities these disadvantages are increasingly felt, and it would seem that the only way to deal efficiently with the problem is for the railway plan to form a definite part of the town plan. Even when the railways are in Government hands, as in New Zealand, the difficulty is continually felt, and it is evident that large schemes of reconstruction will eventually have to be faced. In many cases, however, development has not proceeded too far to allow alternative railway routes to be reserved for the time, not far distant, when they will be required. Several of the seaside resorts, such as New Plymouth and Timaru, are particularly handicapped by the railway along their sea front.

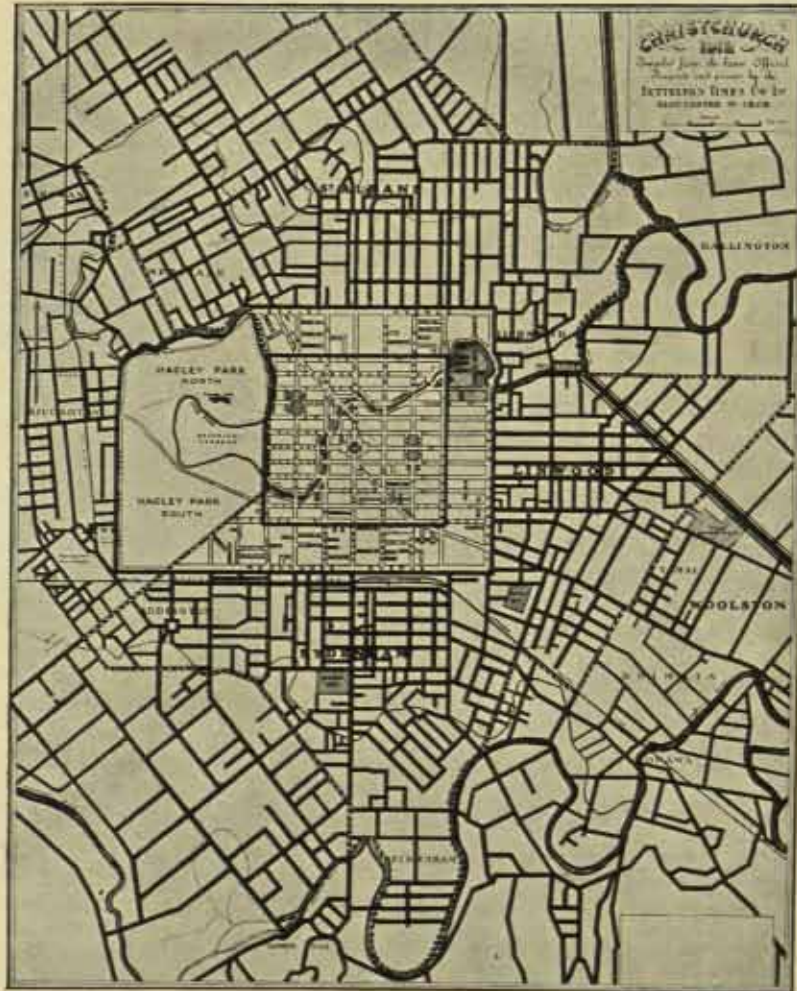
Town lands have, as we have seen, in many cases been reserved on a lavish scale for public purposes, and also for the provision of educational endowments, but there is evident a somewhat natural tendency to poach on these lands for other public purposes. In some cases, for instance, the town belt has been partly appropriated for a cemetery or a gaol, and in at least one case by a lunatic asylum.

The city of Christchurch, on the flat Canterbury plains, was laid out some 75 years ago with the customary square mile of town, half a mile each way from the Cathedral Square, and around this was a belt of town land which was intended to be reserved for public enjoyment. A few years later, however, the development of the town necessitated the construction of a railway tunnel through the neighbouring hills to the port of Lyttelton, and the whole of these town lands were sold, it is reported for some £20,000, to aid this purpose.

This is a very valuable illustration of the advantages to the town itself of some outside control over municipal affairs, such as is exercised by our own Local Government Board. The tunnel at Christchurch was undoubtedly a necessity for the progress of the town, but it was not good policy to sell the town lands.

The necessity for immediate funds to aid development is felt in many directions in every new undertaking, and once again the point is emphasised that the town plan to be really effective must include *all* the interests of the town.

The plan must also keep pace with the town itself. In the case of Christchurch, no sooner were the town lands built on than the growth spread still further afield, and the original rectangular plan was overstepped in all directions. It is curious, however, to



note from the plan how once again the old bullock tracks in radiating directions, have grown to form the natural highways—even in the most regularly planned of towns.

In the North Island the vigorous cities of Wellington and Auckland are rapidly developing in every direction. In each, as in so many cases, the number of independent municipalities outside the city area, which has in the past been a stumbling block even for such cities as Melbourne and Sydney, is gradually being merged into the city proper, and the smaller



Invercargill, N.Z.: Dee Street (width 132 feet).

municipalities are in many cases gladly availing themselves of the opportunity of uniting in the administration of the cities of which they form part.

This sturdy independence of spirit has served its purpose in decentralising the governing authority, but, in all matters of town planning at any rate, it is becoming increasingly evident that the general lines of development must follow one harmonious plan.

The great difficulty of "Windy Wellington" is the steep mountain sides, which rise immediately at the back of the town, and the limited amount of level land available for development. Much has, however, been done by engineering skill to surmount these difficulties. The suburban trams, built on special tracks, tunnel through the hills on both sides of the town, and where gradients are too steep even for this a cable lift takes passengers to the higher levels.

The city of Auckland is surrounded by volcanic cones long since extinct, and deep "gullies" or valleys run through the town in direction roughly like the outspread fingers of one hand. The site is a difficult one to develop, and it is astonishing that so much has been done in three-quarters of a century. Auckland Harbour is second only to Sydney Harbour in natural beauty, and the ferry service, radiating in all directions, is in many ways similar to the Sydney model. In the lower part of the town is much reclaimed land, now nearly all occupied for business purposes. Very extensive docks and wharves have been constructed, and a scheme is projected for a harbour-side drive extending many miles along the harbour.

The development inland has, however, owing possibly to the multiplicity of authorities, been largely

haphazard, and the natural "gullies" form a considerable obstacle to the design of new main roads, which are badly needed.

The city of Auckland has, however, in the recent erection of the Grafton Bridge—a reinforced concrete single-arch structure of fine proportions (although inadequate width)—shown what may be done in bridging these natural obstacles. These natural valleys are frequently of great depth, too steep for building purposes, and admirably adapted for the planting and preservation of the native New Zealand "bush" and tree-ferns, which are disappearing all too fast.



Invercargill, N.Z.: Typical view (from Water Tower looking down Leet Street).

A great advance has been made in New Zealand legislation by the introduction of a special Government department for the preservation of beautiful scenery, and "scenic reserves" are increasingly appreciated by the Dominion. An extension of the same principle is found in the preservation of the banks of all streams and rivers wherever possible, and the reservation from building of a strip of land at least a chain or half a chain in width. These limits, although insufficient to protect adequately the water frontage from spoliation, are a beginning in the right direction and an object lesson which might well be extended to the remainder of the Empire.

ARTISTS' WAR RELIEF EXHIBITION.

ONCE again the drawing-habit prevalent amongst architects has been turned to good account. Members may, perhaps, legitimately indulge in some satisfaction in respect of the exhibition now being held at the Institute Galleries, in aid of the Artists' War Relief Fund, arranged jointly by the Imperial Arts League and the Royal Institute. For not only do members of the Institute contribute in quite considerable proportion to the exhibits, but at the same time those of them who do show works take their place, with what credit may be, in the ranks of exhibitors alongside professed painters. In their discretion, the Hanging Committee, proving themselves no respecters of persons or professions, have seen to it that here architects and painters, as friendly rivals in a good cause, shall happily hang together on the very same walls.

Beginning with black-and-white work, on entering from Maddox Street we at once run up against old acquaintance: Mr. Raffles Davison, in pen-and-ink views of Worcester and other subjects; Sir Ernest George, in copper-plate impressions, printed in warm sepia, of the Ponte Vecchio, Florence, and the Rialto, Venice, so solid in their high-lights, so cavernous in their shadows; and Mr. Arnold Mitchell, represented by elevational drawings, in ink-wash, of the west fronts of Lichfield, Wells, and Rheims cathedrals. Sir Chas. Nicholson contributes a group of pen-studies, unwashed, from Bruges, Ghent, Antwerp, Malines, Aerschot, and Louvain; whilst Mr. Frank Emanuel, Mr. W. H. Ansell, Mr. Hanslip Fletcher, Mr. Geo. Vey, and Mr. Hilton Nash follow, each with a parallel group of subjects. Mr. Fletcher, too, shows us what can be made, by way of a picture, out of West Smithfield, with the entrance to St. Bartholomew's Hospital in the foreground. Mr. Anthony Barker's work is marked by power and imagination, whilst Mr. W. Walcot's large plates possess a force and impressiveness due by no means merely to their superficial area. Mr. Gerald Horsley and Mr. Edward Warren meet us with architects' sketches, in pencil, from abroad, and Mr. Curtis Green with a whole series of fine pen-and-ink examples from at home and abroad. He also wields the etching needle to good purpose.

Coming to water-colour, we encounter it, clear and clean, in Mr. Guy Dawber's "Chatillon," and in Mr. Troyte Griffith's two canal views, Worcester, no less sound and painter-like, in their pleasing way. Between these latter Mr. Philip Norman's luminous little drawing, from Gomshall, falls in well as a centre-piece. Mr. E. W. Morgan proves himself expert at architectural subjects in his drawings from College Hill, E.C., Gloucester, and Oxford. Mr. H. S. East gives us welcome miniatures of country churches in Kent and Lincolnshire, whilst Sir Ernest George again shows his master-hand in two drawings, lightly touched with colour, of old houses, Exeter, and the doorway of St. Trophime, Arles. One thing we

may say emphatically of these so far as they go: we feel that they are drawn.

On entering the main gallery one is confronted by an important landscape by Mr. Stephen Reid, flanked by drawings, no less telling in their individual way, by Mr. E. A. Rickards, Mr. Douglas Wells, Mr. Barker, and Mr. Adshead—all displaying mastery of the art-and-mystery of water-colour painting. On an adjacent screen a landscape by Mr. Geo. Clausen holds its own amid a group of strong drawings by Mr. Barker, Mr. Waring, Mr. Prentice, Mr. Niven, and Mr. Wigglesworth, these two latter still remaining pleasantly undivided even here. On the other face of this same screen Mr. Barker and Mr. Waring once more put out their strength, along with Mr. Douglas Wells and Mr. Cecil Brewer; whilst Mr. Matthew Hale's tender landscape reigns supreme amongst these.

Sir Aston Webb's Gateway at Bruges, Mr. Phené Spiers's Ruins of St. Cloud, and the late Alfred Waterhouse's Ponte St. Angelo, Rome, recall models of English water-colour art earlier in date than such as certain of their neighbouring exhibits owe allegiance to. A glance, by way of comparison, at Mr. Walcot's spirited impression, on a big scale, of the Palace of Justice, Brussels, will illustrate this point. But it is instructive, in the case of the two exhibits by Mr. Waterhouse, to mark the advance in his handling of colour from 1873 to 1885. Mr. Alfred Yeates has spent time to good purpose at Laon and in Dunkirk Harbour, and Mr. Mervyn Macartney in like manner has devoted leisure to outdoor work with the brush. Pictures by Mr. Edwin Bale and Mr. Alfred Parsons are well balanced on a screen containing also works by Sir Ernest George, Mr. Philip Norman, Mr. Napper, and Mr. Nutt. Mr. Joass is represented by a pair of sketches from Poole Harbour.

WALTER MILLARD [A.].

. See report of the opening of the Exhibition by the Princess Louise, p. 452.

Books Received.

- Memorials and Monuments Old and New: Two Hundred Subjects Chosen from Seven Centuries. By Lawrence Weaver, F.S.A. 8s. Lond. 1915. 12s. 6d. net. ["Country Life" Offices, 20 Tavistock Street, Covent Garden.]
- The Medici Portfolios.—French Sculpture of the Thirteenth Century. Seventy-eight Examples of Masterpieces of Medieval Art illustrating the Works at Reims, and showing their place in the History of Sculpture. With an Introduction and Notes by Arthur Gardner, M.A., F.S.A. 4s. Lond. 1915. 7s. 6d. net. [Philip Lee Warner, 7 Grafton Street, W.]
- British Standard Specification for Portland Cement. No. 12. Revised March 1915. (Engineering Standards Committee.) 5s. net. [Crosby Lockwood & Son, 7 Stationers' Hall Court, E.C.]
- Levelling and its General Application. By Thomas Holloway; revised by H. T. Tallack. Third Edition. 8s. Lond. 1914. Price 2s. 6d. net. [E. & F. N. Spon, 67 Haymarket, S.W.]
- First Annual Report of the City Planning Board of the City of Boston for year ending 31 January 1915. 8s. Boston 1915. [City of Boston Printing Department.]
- The Society for the Protection of Ancient Buildings: The Committee's Thirty-Eighth Annual Report, June 1915. [A. R. Powys, 20 Buckingham Street, Adelphi.]
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9 CONDUIT STREET, LONDON, W., 31st July 1915.

CHRONICLE.

R.I.B.A. Record of Honour : Fourteenth List.

Killed in Action.

BOWIE, GEORGE PIGRUM [*Licentiate*], Captain, 5th Battalion, 1st Canadian Contingent. Killed in action on the 7th July. Aged thirty-four.

Captain Bowie was the son of Mr. and Mrs. Bowie, of Bernard Gardens, Wimbledon, and was educated at the United Westminster School. He entered the drawing office of Messrs. Holloway Brothers, afterwards becoming assistant to Mr. Edward Warren [F.]; subsequently he was for some time with Messrs. Sturgess & Barton in Boston, Mass., and afterwards did work in Oxford. In 1906 he joined Messrs. Parr & Fee, of Vancouver, subsequently acquiring a large and successful practice of his own in that city. Vancouver contains many examples of his work—notably the Lumbermen's Arch which he designed on the occasion of the visit of the Duke of Connaught and which has since been retained as a permanent memorial. As an old member of the Artists' Rifles, Captain Bowie was always proficient in arms. He joined the 1st Canadian Contingent immediately on the outbreak of war, and was gazetted Captain on the 24th May. It might be said that he died a martyr to his profession, for he was shot by a sniper when making a sketch of the trenches, work for which he had received high praise.

CHESTER, JAMES LESLIE, Lieut., 9th Liverpool Regiment. Killed in action, 6th July.

Lieut. Chester was the only son of Mr. J. T. Chester, first Mayor of Wallasey. On quitting Birkenhead School two years ago, he was articled to Mr. T. Taliesin Rees [F.], of Liverpool. He enlisted last August and received his commission in November.

DAVIES, HUGH FREDERIC, 2nd Lieut., 1/5th Cheshire Regiment. Killed in action in Flanders on 3rd July. Aged twenty-three.

Lieut. Davies, the youngest son of Mr. John Davies, of Chester, was an assistant architect in the service of the Liverpool Corporation. On the outbreak of war he enlisted as a private, and was granted a commission in October. He was specially mentioned for gallantry in the field in Sir John French's despatches of the 22nd June.

LAWSON, Captain F. H. [*Probationer*, 1906], 5th Battalion Northumberland Fusiliers. Killed in action on the 24th May. Aged twenty-eight.

Captain Lawson served his articles with Messrs. Newcombe & Newcombe, Architects, of Newcastle, and was afterwards in the office of Mr. A. Stockwell. Prior to joining the Fusiliers he was a trooper in the Yeomanry. He obtained his commission as Second Lieutenant in 1909, was promoted First Lieutenant in 1910 and Captain in 1911. His Colonel writes :

"Captain Lawson was one of my best officers, thoroughly capable and reliable. He was a universal favourite, and his early call is much felt by all who knew him."

LAWRENCE, FRANK DEANE, Princess Patricia's Regt.

Killed while on sentry duty in the trenches near Ypres, 27th April. Aged thirty-three.

Mr. Lawrence was the fourth son of the late Peter Lawrence, of Edinburgh, and was articled to Mr. George Washington Browne, R.S.A., some fifteen years ago. He went through part of the South African campaign, and eventually emigrated to Canada, when he was engaged for some time in railway surveys. He was among 140 picked men suddenly ordered to the Front shortly after his regiment's arrival in England, and was shot through the head while keeping a lookout over the parapet of the trench, dying almost immediately.

"While one cannot too deeply mourn the loss of such a brave soldier, there is a consolation in knowing that he did his duty fearlessly and well, and gave his life for the cause of Liberty and upbuilding of the Empire." (*Extract from Maj.-General Hughes's letter to the brother of the deceased.*)

Died of Wounds.

MUNDLE, A. : wounded at Ypres, and died in Bailleul Hospital, 4th May. Aged thirty-five.

Mr. Mundle, son of the late Ernest Mundle, was articled to Messrs. Davidson & Bendle, of Newcastle, and was afterwards assistant with Mr. A. Stockwell, Messrs. Mould & Tasker, and Mr. F. Rich, and chief architectural assistant to Mr. Holford, City Property Surveyor (all of Newcastle). He went to Quebec in 1912, and established himself as an architect at Melville, Sask. He came to England with the First Canadian Contingent.

Wounded and Missing.

NEWBERRY, C. J. [*Student*], 7th Battalion Royal Fusiliers : reported wounded and missing.

Wounded.

ROBERTS, GEORGE ARTHUR [*Licentiate*], of Sydney, N.S.W., Major, First Brigade, Australian Field Force, reported wounded : writes that he is receiving every skilled attention, and hopes to be on duty again very soon.

ROSENTHAL, CHARLES [A.], of Sydney, N.S.W., Lieut-Colonel, commanding 3rd Field Artillery Brigade, Australian Division, wounded in Gallipoli, has recovered and resumed his command.

DIRCKS, LAWRENCE A. (son of the Librarian R.I.B.A.), Lieut., 18th London Regt. : wounded, but now recovered and returned to duty.

On War Service.

The following is the Fourteenth List of Members, Licentiates and Students enlisted for the War, the total to date being 44 Fellows, 315 Associates, 154 Licentiates, 205 Students, 2 Hon. Associates :—

FELLOWS.

Collinson, G. F. : LL.-Col., 10th Bn. Suffolk Regt.

Halley, J. M. W. : 2nd Lieut., Royal Engineers.

Taylor, T. L. : 2nd Lieut., King's Own Scottish Borderers.

ASSOCIATES.

Bayley, B. C. E. : Royal Engineers.

Beckett, R. T. : Division Officer, Royal Engineers.

Beswick, A. E. : Lieut., 51st Bn. Canadian Expeditionary Force.

Bishop, H. Courtenay : 2nd Lieut., Pioneer Bn., 13th Gloucester Regt.

Butt, C. F. : 2nd Lieut., 5th Middlesex Regt.



Lieut. J. NIXON HOBSFIELD,
Royal Naval Volunteer Reserve, Associate.
Died of wounds (see p. 452).



Captain GEORGE P. BOWRIE,
5th Bn. 1st Canadian Contingent, *Licentiate*.
Killed in action (see p. 450).

Carmichael, D. A. : 2nd Lieut., 7th Bn. Royal Fusiliers.
Cowley, H. R. : 2nd Lieut., Hampshire (Fortress) R.E.
Culliford, L. A. : 2/1st London Field Co., R.E.
Dickeson, Colin A. : New Zealand Expeditionary Force.
Foster, R. C. : 2nd Lieut., Royal Engineers.
Harlock, Harold : R.N.A.S.
Jepson, H. Norman : 33rd Divnl. Signal Co., R.E.
Knapp-Fisher, A. B. : Acting Divn. Officer, R.E. Services
attached 16th Bn. K.R.R.
Martin, M. R. : R.A.M.C. (T.).
Minor, Philip : 2nd Lieut., 5th Bn. 3rd Line, Durham L. I.
Owen, W. S. : Lieut. and acting Adjutant, 3/11th County of
London Regt.
Rhodes, W. Craven : 22nd Bn. Royal Fusiliers.
Ridley, G. W. : Lieut., 4th Royal Sussex Regt.
Roberts, T. Leonard : Royal Engineers.
Rosenthal, Chas. : Lieut.-Col. commanding 3rd F.A. Brigade,
Australian Division.
Slater, J. Alan : O.T.C.
Triscott, H. : 39th Divnl. Signal Co., R.E.
Unwin, Henry : Royal Engineers.

LICENTIATES.

Bell, T. F. : Artists' Rifles.
Bentley, A. F. C. : 2nd Lieut., Royal Field Artillery.
Burgess, Horace : Royal Engineers.
Clemesha, F. Chapman : Lieut., Canadian A.S. Corps.
Cowman, A. : Royal Field Artillery.
Davies, G. H. : Sanitary Section, 53rd (Welsh Divn.).
Draper, W. B. Y. : Lieut., Royal Engineers.
Glennie, F. F. : 2/4 Royal Sussex Regt.
Hawwell, F. : 2nd Lieut., Northumberland Fusiliers.
Hooper, F. B. : Royal Engineers.
Langham, Claude S. : 2/2nd S.W. Midland Brigade Field
Ambulance, R.A.M.C. (T.).
Little, T. C. : 3rd South Midland Field Ambulance, R.A.M.C.
Sheppard, R. : R.A.M.C.
Tanner, Leslie : 2nd Lieut., Home Counties Signal Co., R.E.
Taylor, J. J. : Lieut., 11th Yorkshire Light Infantry.

STUDENTS.

Barlow, Smith : Army Service Corps.
Berry, Harold : 9th County of London, Queen Victoria Rifles.

Brinton, S. : Northumbrian Division R.E.
Brown, Frank C. : Royal Engineers.
Burleigh, Harold : O.T.C.
Cottingham, G. R. : 5th Bn. Royal West Kent Regt.
Daniel, T. Llewellyn : R.N.A.S.
Eaton, Alex. R. C. : 2nd Lieut., 9th Bn. Bedfordshire Regt.
Fiennes, Hon. L. C. : Royal Flying Corps.
Haile, Wilfred L. : North Somerset Yeomanry.
Hall, D. Carby : Capt., A.S.C.
Hall, W. B. : 2nd Lieut., Royal Fusiliers.
Higginson, Frank : 14th Bn. 1st Royal M. Regt., C.E.F.
Higginson, H. Scott : 14th Bn. 1st Royal M. Regt., C.E.F.
Hunt, Reginald : 4th Bn. Oxford and Bucks Light Infantry.
Larkin, H. E. A. : 13th Bn. County of London Regt.
Mackenzie, F. W. : 7th Bn. Middlesex Regt.
Mansfield, R. E. : Royal Engineers.
Martindale, C. J. F. : 21st Northumberland Divnl. Signal Co., R.E.
Mercer, John F. L. : Royal Engineers.
Ramadan, Eric : 2nd Lieut., 15th West Yorkshire Regt.
Reed, Wm. J. : R.N.A.S.
Rees, Frederick W. : 1st Glamorgan R.E.
Ridley, B. W. : Capt., 7th South Lancashire Regt.
Roberts, C. H. : 2nd Lieut., 1st Bn. York and Lancs Regt.
Shapley, A. E. : Lieut., 23rd Bn. Northumberland Fusiliers.
Shields, G. D. : Royal Engineers.
Smith, Arthur : Royal Engineers.
Soissons, Louis de : Lieut., A.S.C.
Wharf, H. F. : 10th Bn. East Yorks Regt.
White, Raymond C. : Royal Bucks Hussars.
Williamson, H. Rothead : Lieut., 1/1st City of Edinburgh R.E.
Wood, T. Spencer : 2/3rd South Midland Brigade, R.F.A.
Young, J. R. : Lieut., A.S.C.

Promotions.

Bennett, P. D. [A.], to Capt., 5th Royal Warwickshire Regt.
Brough, W. J. [A.], to 2nd Lieut., 9th Bn. Middlesex Regt.
Bull, J. W. [A.], to 2nd Lieut., 2nd Bn. East Lancs Regt.
Clarke, J. M. [A.], to 2nd Lieut., East Lancs Regt.
Cruickshank, D. E. [S.], to 2nd Lieut., 10th Bn. Border Regt.
Cubey, J. B. [A.], to Capt., 23rd Bn. Northumberland Fusiliers.
Dicken, Aldersey [Licentiate], to Sub-Lieut., R.N.V.R.

Dod, H. A. [A.], to Lieut., 17th Service Bn. King's Liverpool Regt.

Heal, A. Victor [A.], to 2nd Lieut., 6th London Brigade, R.F.A.

Masey, Cecil [Licentiate], to 2nd Lieut., Durham (Fortress) R.E.

Nott, George [A.], to 2nd Lieut., 3/1st North Midland Divnl. Cyclist Co.

Smithers, Alec. [A.], to 2nd Lieut., Hampshire (H.B.) R.G.A.

Walch, J. B. M. [S.], to 2nd Lieut., Royal West Surrey Regt.

Walter, R. A. [A.], to 2nd Lieut., 10th Bn. Norfolk Regt.

Wheeler, Major M. [F.], to Lieut.-Col., 4th (Reserve) Bn. Royal Berkshire Regt.

Lieut.-Colonel A. B. Hubback [F.], commanding the 20th Bn. London Regiment, who received recently such high commendation from the Brigadier-General of the 142nd Infantry Brigade [see p. 397], writes: "It is most gratifying to know that our doings are watched by those at home who know us. We are having a hard time, but the cause is a good one, and we shall not be very long now before the German turns his back on us. . . . It would break your heart to see the way the old churches and buildings are knocked to pieces, damaged, of course, beyond all repair, yet, strange to say, the crucifix in each churchyard remains untouched. . . . I am proud to be in command of such a fine lot of men."

Lieut. J. Nixon Horsfield, R.N.V.R.

As announced in the last issue, Lieut. J. Nixon Horsfield [A.], of the Royal Naval Volunteer Reserve, succumbed to wounds received while leading his men to the assault during the operations in Gallipoli. His Commanding Officer gives the following details of the affair in a letter to Mrs. Horsfield:

"Your husband died most gallantly; words cannot express the admiration we all feel for his conduct. On the night of 18th June we were advised to take a Turkish trench. The first attempt was unsuccessful, but the second, at 2.30 a.m. on the 19th, which was led by your husband, was successful and the trench was carried. Your husband was wounded in this assault—badly wounded in three places, in the arm, in the back, and in the chest. Yet in spite of his wounds he went on into the trench, and lay there, unable to move, encouraging his men the whole time. How he did it for four hours we cannot imagine. It was splendid. He got out of the trench at 7 a.m.—and I cannot think how he managed to do so—but did not leave the spot until his company was relieved. We got him on to a stretcher and carried him to the Field Ambulance Hospital, but I deeply regret to say he died there the same evening."

John Nixon Horsfield was the son and pupil of the late Fellow of the Institute of the same name. He was educated at the City of London School, and began his professional training in the Architectural School, King's College. Upon the termination of his articles he travelled in Italy, France and Belgium, and worked as assistant in his father's office. He then spent some time in the United States, assisting in the offices of some of the leading architects of New York. Returning to England he entered into partnership with his father, and carried on the practice with his brother after the father's death in 1907. He passed the Final Examination in 1906, and was elected Asso-

ciate in the following year. A few years ago he went to Paris for a course of study at the Ecole des Beaux-Arts, working in the Atelier Duquesne, Rue Mazarine. Until the past two or three years he was a constant attendant at General Meetings, occasionally joining in debates on professional and domestic questions. He was a ready and fluent speaker—quaintly humorous sometimes, but there was always good sound sense in what he said. In various other ways he took part in the activities of the Institute, serving for two years (1911-13) on the Practice Committee, contributing to the JOURNAL, and competing for the Prizes and Studentships. He was never fortunate enough to carry off any of the latter, but his work invariably attracted notice, and was often favourably commented upon. His loss is deeply mourned by those who knew him intimately, for he possessed a very winning personality: sympathetic, generous, frank, and open as the day. He was thirty-two years of age, and had been married two years—"to me, two years of absolute happiness," writes his young widow.

Artists' War Relief Exhibition: Opening by the Princess Louise.

On another page of this issue will be found a contribution by Mr. Walter Millard [A.] describing the Exhibition now being held at the Institute for the benefit of painters and architects who are suffering from the effects of the War. The Exhibition, which has been arranged by the Imperial Arts League jointly with the R.I.B.A., was opened by H.R.H. the Princess Louise on Wednesday, July 28th.

The Princess, attended by Lady Victoria Russell, arrived at the Institute at 3 o'clock, and was received by a committee* of the two organising bodies headed by Mr. Ernest Newton, A.R.A., President of the Institute. Among the distinguished company present besides those mentioned were Lord Plymouth and Sir Wm. Lever, and many ladies.

Mr. ERNEST NEWTON, addressing the assembly in the Great Gallery, said: Before asking Her Royal Highness graciously to open this Exhibition will you allow me to state very briefly the objects we have had in view in organising it. Our main object, of course, is to sell as many pictures and sketches as possible, and those who still have room on their walls have now an excellent opportunity of acquiring fine works of art, and at the same time of materially assisting artists and adding to the War Funds of the Imperial Arts League and

* Representing the Imperial Arts League: Mr. Edwin Bale, R.I.; Mr. W. Robert Colton, A.R.A. (Chairman of the War Emergency Fund Committee of the Imperial Arts League); Mr. John Lavery, A.R.A.; Mr. J. Coutts Michie, A.R.S.A.; Mr. David Murray, R.A.; Sir Wm. Plender, F.C.A.; Mr. Arthur Rackham, R.W.S.; Mr. W. Reynolds-Stephens; Mr. Harold Speed; Mr. Arthur D. Rendall, Hon. Sec.

Representing the R.I.B.A.: Mr. Ernest Newton, A.R.A.; Mr. E. Guy Dawber; Mr. Gerald Horsley; Mr. Arthur Keen; Mr. H. H. Statham; Mr. Edward Warren, F.S.A.; Sir Aston Webb, K.C.V.O., C.B., R.A.

Stewards: Mr. L. Rome Guthrie; Mr. Herbert Shepherd; Mr. P. E. Webb; Mr. Leslie Wilkinson.

the Architects' Benevolent Society. It may be objected that this is not a good time, when we are exhorted to practise the most rigid economy, to appeal to the public to spend money on pictures; but in answer to that I would point out that money spent on pictures is money invested, and at good interest, too. The Imperial Arts League is not ordinarily an exhibiting body, and is only using its powerful organisation on the present occasion to assist painters whom the War has placed in temporary financial difficulties, and I need not remind you that such cases are, unfortunately, numerous. Architects are perhaps even more hardly hit than any other art workers. A buyer of pictures can to some extent help a painter to continue the practice of his art at a very modest outlay, but the employment of an architect is a much more serious affair. Many architects are, however, accomplished draughtsmen, water-colour painters or etchers, and their exhibits will show to the public a side of an architect's life with which it is not perhaps very familiar. In conclusion I should like to thank the Honorary Secretaries, Mr. Rendall and Mr. Redfern, and many members of the joint committee for the immense amount of work they have done in getting together this excellent Exhibition at very short notice. I will now beg your Royal Highness graciously to declare the Exhibition open.

Her Royal Highness PRINCESS LOUISE: I have great pleasure in opening this Exhibition, and I feel sure that all those who are interested in art and architecture will come and assist those who greatly need help. And I would urge them to come not only for this reason, but also because of the intrinsic value of the work to be seen here.

The Exhibition having been declared open—

The Right Hon. the EARL OF PLYMOUTH (Vice-President of the Imperial Arts League) said: It is now my pleasant duty very briefly to thank your Royal Highness for your kindness in so graciously consenting to open this Exhibition. We know how much your Royal Highness has been suffering of late, and we are deeply grateful that you should have made it possible to be present to-day to lend your gracious approbation to the work we are endeavouring to do for the benefit of those artists who are suffering so severely from the present condition of affairs. It was your Royal Highness's interest in all artistic work that led us to hope that you would be so kind as to come here, as you have done this afternoon. On behalf of the President of the Royal Institute of British Architects and of the Imperial Arts League, I beg you to accept our grateful thanks.

Mr. ROBERT COLTON, A.R.A. (Chairman of the Arts War Emergency Fund Committee): On behalf of the Imperial Arts League and the War Emergency Committee, I beg to second his Lordship's motion. I feel that we should welcome the Princess not only as a Representative of the Royal House, with the influence which attaches thereto, but also because

Her Royal Highness has come here, with that mutual sympathy that artists have to one another, to enable us to aid the artists who are passing through such a difficult time. I have also to thank the President and Council of the Royal Institute of British Architects for their very kind loan of these galleries for the purpose of this Exhibition, and for the charming way in which they have aided us in every particular in the work of organisation. I should like to explain on behalf of the Imperial Arts League that the pictures here come under two categories: those that are directly exhibited by the artists whom we wish to benefit, and those presented by donors—pictures which, if they are sold, will go to the funds of the League so that more pictures can be bought with the proceeds. In this way we hope to aid artists in keeping their heads above water during this strenuous time. I need hardly point out that a vast number of really good artists can only just live decently in ordinary times, but under the present difficult conditions they cannot live at all without some such aid as we are now organising. I may say that we have many donors of money, to whom we wish to return our very sincere thanks. Moreover, we have had donations in another way, especially from a lady who has sent us a donation of £50 as the proceeds of some embroidery work. I feel sure all the ladies present will realise what it means, and the amount of work which it entails, to obtain a profit of £50 on embroidery; and I sincerely hope they will start the same sort of work, and send in their cheques for the amounts realised. I have now formally to second the vote of thanks to Her Royal Highness for coming here to-day.

The vote was carried by acclamation, and Her Royal Highness was then conducted round the Exhibition.

The Princess stayed for over an hour and a half looking at the exhibits, and was manifestly interested, especially in the architects' work. The general opinion is that a more interesting collection of architects' drawings has never before been brought together. The Committee earnestly hope that members will visit the Exhibition, and that they will do their best to persuade their friends, especially their moneyed friends, to do so too. It will remain open for several weeks, from 11 till 6 daily (Saturdays, 11 till 4).

The German Visitation: Sympathy with French Architects.

The following letter, signed by the President and Council of the Royal Institute, has been addressed to the President of the Société des Architectes diplômés par le Gouvernement, Paris:—

June, 1915.

SIR,—We, the members of the Council of the Royal Institute of British Architects, beg you to receive and convey to your colleagues of the Société des Architectes diplômés par le Gouvernement our profound sympathy with you, our confrères, and with the whole French nation on the wanton destruction by the

Germans of so many examples of French architecture, many of which, such as the Cathedral of Rheims, were treasured by the whole civilised world as representing the highest possible achievement of mediæval architecture.

It is impossible to express in terms of moderation the feelings with which not only British architects but the whole of our countrymen have received the news of the ruthless destruction of noble buildings which have hitherto escaped the ravages of time and the violence of war.

These acts of barbarism are in themselves another proof that the German aggression is in reality an attack upon the common civilisation of Europe and the knowledge of this fact has confirmed the British people in their determination to carry on the War, at whatever cost, until the fall of German militarism has gained for Europe some measure of security against so intolerable a menace to the peace and happiness of the world.—We are, Sir, Yours faithfully,

ERNEST NEWTON, *President R.I.B.A.*

[Signatures of the various members of the Council follow.]

A letter in the same terms and similarly signed was also sent to the President of the Société Centrale des Architectes Français.

The following replies have been received :

*Société des Architectes diplômés par le Gouvernement,
Paris : 22 Juillet, 1915.*

À Monsieur le Président du "Royal Institute of British Architects,"—

MONSIEUR LE PRÉSIDENT.—Les membres du Conseil d'Administration de la Société des Architectes diplômés par le Gouvernement, sincèrement touchés de la grande sympathie que vous leur témoignez ainsi qu'à la nation française en présence des actes inqualifiables commis par les Allemands sur les beaux monuments de France, s'unissent pour vous envoyer la cordiale expression de leur profonde estime et de leur inaltérable amitié.

Nous restons convaincus, qu'en se retirant, les hordes barbares ne respectent rien et détruiront les merveilles qui restent encore entre leurs mains, car il est impossible d'attendre un éclair de raison de ceux qui, proclamant que l'honneur est un vain mot, ordonnent l'anéantissement des chefs-d'œuvre pour venger leurs insuccès.

C'est pour cela qu'il importe de poursuivre sans faiblesse le but que nous nous sommes assigné, c'est-à-dire l'écrasement du militarisme allemand. Confiant dans l'issue du duel sanglant dans lequel nous avons été entraînés, nous lutterons jusqu'au bout pour la civilisation et le bonheur de l'humanité. Et les monuments que nous élèverons dans le calme de la paix célébreront la libération des peuples d'Europe et chanteront la victoire.

Croyez, Monsieur le Président, vous et les membres de votre honorable société, à l'expression de nos sentiments bien cordiaux.

Le Président :

JACQUES HERMANT.

[Signatures of the members of Council, etc., follow.]

Société Centrale des Architectes,

8, Rue Danton, Paris : le 3 Juillet, 1915.

MONSIEUR LE PRÉSIDENT ET TRÈS HONORÉ CONFRÈRE,

Au nom du Bureau et du Conseil de la Société Centrale des Architectes, nous venons vous exprimer nos bien sincères remerciements pour le témoignage de confraternelle sympathie que vous nous avez adressé, au nom de l'Institut Royal des Architectes Britanniques, à l'occasion de la destruction systématique par les armées allemandes des monuments de notre France.

Le monde entier a été pénétré d'indignation en apprenant ces actes inqualifiables de vandalisme commis sur les plus précieux joyaux de notre architecture nationale et nous vous sommes particulièrement reconnaissants d'avoir eu la généreuse pensée de vous associer à la protestation véhémement et unanime de toute notre corporation.

Veuillez agréer, Monsieur le Président et très honoré confrère, l'assurance de nos sentiments de haute considération confraternelle.

Le Président de la Société,

Membre de l'Institut,

(Sgd.) LALOUX.

Federal Council of the Australian Institutes of Architects.

A Federal Council of the Australian Institutes of Architects has been formed by the New South Wales Institute, the Royal Victorian Institute, the Queensland Institute, the South Australian Institute, the West Australian Institute, and the Tasmanian Institute. The objects for which the Council was formed are to represent the profession in all matters of a Federal character, especially in dealings with the Federal Government, and to bring about uniformity in Australian practice. The Council held its first meeting from the 20th to the 24th of April last in Melbourne, when all the above Institutes were represented. The members of the Council for the current year are :

New South Wales.—Arthur W. Anderson, President I.A.N.S.W. ; Walter Newman, Vice-President I.A.N.S.W.

Victoria.—H. W. Tompkins, President R.V.I.A. ; E. A. Bates, Vice-President R.V.I.A.

Queensland.—C. W. Chambers, President Q.I.A. ; Charles McLay, F.Q.I.A.

South Australia.—H. E. Fuller, President S.A.I.A. ; C. W. Rutt, Vice-President S.A.I.A.

West Australia.—G. Sydney Jones, F.I.A.N.S.W. ; W. Kenwood, F.I.A.N.S.W.

Tasmania.—A. North, F.I.A.T. ; J. A. B. Koch, F.I.A.T.

Mr. Arthur W. Anderson is President of the Federal Council, and Mr. Walter Newman, Secretary and Treasurer.

University of London : School of Architecture.

In connection with the work of the Session 1914-15, the following awards have been made in the School of Architecture at University College :—

DEPARTMENT OF TOWN PLANNING.

Sir Wm. Lever Prizes in Town Planning.—Messrs. A. G. Wood, H. N. Fisher, L. H. Shattock.

Sir Wm. Lever Prizes in Architecture.—Messrs. H. N. Fisher, I. Reicher.

Town Planning : Certificate.—Mr. H. N. Fisher.

What constitutes a Professional "Day"?

The question having been raised as to the number of hours which should be considered to constitute a professional "day," as the term "day" is employed in the Schedule of Charges, the Council of the Institute is desirous of obtaining the opinion of members on the point, with the view of ascertaining whether it might be possible to lay down a definite ruling on the matter. Communications on the subject should be addressed to the Secretary.

Professional Conduct.

The following Resolution was passed by the Council at their meeting on the 21st June:—

That in the opinion of the Council, the Royal Institute having adopted a Scale of Professional Charges, it becomes the duty of its members, when giving advice relating thereto, not to weaken the value of the Scale.

This Resolution will be added to the List of Resolutions on the subject of Professional Conduct printed in the *KALENDAR* at page 70.

Reinstatement of Members.

The Council have reinstated the following gentlemen as Associates of the Royal Institute:—

HAINES, HERBERT (Bedford).

SALMON, NATHAN THOMAS (Wokingham).

Architectural Competitions: Proposed Amendment of the R.I.B.A. Regulations.

The Special General Meeting summoned by the Council to consider an amendment of the Regulations for Architectural Competitions [*KALENDAR*, p. 476], was duly held on the 5th July, Mr. H. V. Lanchester, *Vice-President*, in the Chair.

The second paragraph of the Regulations reads: "Members of the Royal Institute of British Architects and Allied Societies do not compete excepting under conditions based on these Regulations," and a footnote states that "The Regulations are not intended to apply to small limited private competitions."

The alterations proposed are as follows:—

1. The second paragraph to read:—"Members of the Royal Institute of British Architects and of its Allied Societies are only permitted to take part in Competitions in accordance with these Regulations, which are intended to apply to all Competitions other than private Competitions instituted by private individuals or firms."
2. The footnote at the bottom of the first page to be omitted.

THE CHAIRMAN moved that the Regulations be altered as proposed.

MR. HERBERT A. WELCH [A.] seconded.

MR. W. GILLBRE SCOTT [F.] asked for a definition of private competitions. Would a competition promoted by a church committee, for instance, be considered a public competition?

THE CHAIRMAN said he hardly thought so. A public competition would be one in which public money for the proposed building was raised by a compulsory levy under powers con-

ferred by Act of Parliament. When the money was subscribed voluntarily it would be a private competition.

MR. SCOTT asked whether it would not be better to define the term so that country members particularly might distinctly understand what competitions were barred by the Institute Regulations. There had been a great deal of difficulty and trouble on various occasions, and members had been expelled for not conforming to the Regulations. It could do no harm to make it quite clear as to what the Institute considered public competitions and what it considered private ones. The Chairman's definition was a good one: would it not be well to embody it in the Regulations?

MR. WM. WOODWARD [F.]: Assume that a large firm, a company-firm in Regent Street for instance, invited twelve architects to enter into a competition for the rebuilding of their premises: would the Regulations apply to that competition?

MR. FREDERIC R. FARROW [F.]: A better distinction would be between "open" competitions and "limited" competitions. What the Council probably had in their minds in bringing forward the Resolution in this form was that competitions which were limited to a certain number of invited architects were not bound by the Regulations. Those open to the profession generally would come under the Regulations.

THE CHAIRMAN: Hitherto it has been the practice to look upon limited competitions as being outside the disciplinary powers of the Institute.

MR. E. H. WOODCOCK [A.]: It seems odd to restrict the Regulations to competitions involving the expenditure of public money. A competition may be advertised and unlimited, and thus be a public competition in that sense, while private funds only are to be used, as might be the case of a church committee, or other similar body. Again, the competition might be limited to selected architects when public money was to be utilised. The Regulations should govern members of the Institute and the conduct of competitions in all cases.

THE CHAIRMAN: Let me try to clear up that point. If a competition is open to any architect to compete, the Institute considers itself empowered to deal with it. But if it is a limited competition—limited to a specified number of architects, or architects in a specified district, or specified by name—the Institute has not hitherto considered itself justified in intervening, whether the conditions were considered proper or otherwise. The effect of this alteration would be to empower the Institute to exercise supervision over competitions instituted by public bodies, but limited by invitation or other means to a specified number of architects.

MR. H. W. WILLS [F.] opposed the resolution. He did so, he said, with absolute consistency, because although he had been on the Competitions Committee many times when it had been discussed, he had always declared his objection to the proposal. He regarded it as an unreasonable interference with private liberty and judgment. In the case of a limited competition, the competitor had full information to enable him to make a competent decision as to whether the conditions were satisfactory. In a competition of a public character, where there might be anything from 30 to 150 designs sent in, everyone agreed that there should be an assessor, and promoters were bound by the Institute Regulations to have one. But a limited competition was on an entirely different footing. The competitor, for instance, might know the people who had instituted the competition; he might know, in the case of a school committee, that they possessed special knowledge on the subject, and he might have every confidence in their ability to come to a right conclusion. In the case of an ordinary public body the competitor might know that the invitation was intended as a compliment to him, and refusal to compete on the terms offered might be regarded as something like an insult. Or such a case as the following sometimes occurred. A small public body felt that they would like to give the work to one or two architects residing in their locality. They did not like to make a direct choice themselves; they therefore asked two men, either of whom they would like to have, to send them in a sketch-design. Supposing the invited candidates told them they could not compete unless an assessor were appointed, they would probably make a direct appoint-

ment of someone else. If, in response to the suggestion, they appointed an assessor, they would probably say, "As we have to appoint an assessor, we may as well ask everybody to compete." In that way those two men might lose the advantage of their connection with a certain locality which had been built up slowly in the course of years. He had known many limited competitions in which he had been instrumental in getting assessors appointed; he had known others in which the public bodies concerned would not have appointed an assessor in response to any pressure which might have been put upon them. He thought it might be left to the men invited in a limited competition to exercise their own judgment; the effect of laying down rules for them would not react to the good of the Institute, or of the profession generally.

MR. MAURICE B. ADAMS [F.] said he could not see the difference between the paragraph amended as proposed and as it already existed. He was at variance with Mr. Wills, for in small competitions it was more necessary than ever to have an independent party to call in and advise the promoters. The job might very likely be intended for somebody in particular and the competition be only a blind, the persons invited to take part in it never standing the slightest chance. The difficulty about asking the promoters to employ an assessor could be obviated at once if it were understood that in such cases the assessor would charge only a nominal fee. It had been stated over and over again at the Institute that assessors should be willing in small competitions to assess the work for a small sum. Only the other day Sir Aston Webb acted as honorary assessor in a small competition for the Lifford village hall at Broadway. The plans were sent to him and he was able to decide, probably in a very little while, in favour of a design by Mr. Prentice. If architects, when invited to join in a competition of this kind, said at once that they would be pleased to prepare a design, but that it would be better for all parties that an assessor should be appointed, and assured the promoters that only a nominal fee would be charged, then, in nine cases out of ten, he thought the promoters would agree; for it was to the advantage of everybody that the best plans should be chosen. He was strongly of opinion that in these small competitions there was more dubious business going on than one cared to mention. When it was a big job, like the Stepney Municipal Buildings, with 170 designs, no individual stood much chance of exercising any influence, even if he should wish to do so. But even after the Chairman's explanation he could not quite see the difference between the existing clause and the proposed new one, or why the matter should have now been brought forward at all. What was the difficulty? In a footnote to the Regulations it said: "The Regulations are not intended to apply to small limited private competitions," but that footnote was proposed to be eliminated, and incorporated into the second paragraph. It meant precisely the same thing, unless they were going to define a little more accurately, as the Chairman had done, what was a private competition by alluding to public moneys. A church committee dealt with public money, just as much as a municipal body did. They had to get the money out of the public by contributions and subscriptions. The essential thing was to ensure that architects were fairly dealt with; and he could not help thinking that in limited competitions it was more desirable even than in public ones that some sort of independent advice should be brought in, so that some gentleman who had all along expected to get a particular job did not necessarily get it.

MR. WOODWARD said he was led to assume another case by what had fallen from Mr. Maurice Adams. It concerned the words "expenditure of public money." Assume that His Majesty's Office of Works invited twelve architects to compete for a certain job. Did the Institute say that in that case its Regulations were, or were not, to apply? It was not only a question of fairness in the result of the competition, but of conforming to the other Rules and Regulations, as regards commission for example, which applied to the Institute.

MR. JOHN E. NEWBERRY [A.] said that from his point of view, particularly in church work, he should oppose the motion. It was frequently found that committees desired to have a small competition, but they were seldom willing to have

an assessor. He remembered a case in which the architects who had been invited to compete—there were only three or four altogether—asked the Institute to appoint an assessor. The member appointed agreed to act, but said he would charge the full fee. Church competitions ought certainly to be taken out of the definition.

THE CHAIRMAN: Not necessarily church competitions, but competitions which involve the expenditure of privately collected funds.

MR. A. R. JEMMETT [F.] said there seemed to be a slight misunderstanding on the part of the opposition. The fact that an assessor was compulsory would not prevent any man using the local reputation which he had laboriously built up to get himself appointed into the competition. But having got into the competition, he surely would not wish to offend professional etiquette by using his influence to the detriment of his colleagues who were competing. Therefore there could be no difficulty to an honourable man in the direction that the opposers seemed to think. With regard to the definition of what was public and what was private, it seemed to him to be wide enough as it stood—namely, all competitions other than those for private firms. It covered churches and everything except private firms. It was, he thought, a very clear definition, though the Meeting might not agree with it. When a man is acting as trustee for publicly collected money, it is, in essence, public money. If in a church competition there were some maladministration of funds, the newspapers would take up the matter as a public affair and the offender would be sent to jail. If there was to be an amendment, he would suggest one that would make the Regulations apply to all competitions, private firms and all. He agreed with Mr. Adams that it was in small competitions that the Institute Regulations were most required.

MR. GILLBERG SCOTT: Should we not be going a little too far if we try to rope in all these other matters, competitions which may be promoted by church committees, &c., with money which is not, properly speaking, public money, and where the definition would be disputed in numerous quarters.

THE CHAIRMAN: Mr. Jemmett, I think rightly, corrects me. "Competitions other than private Competitions instituted by private individuals or firms" seems to imply that a body of trustees having control of any moneys subscribed or otherwise gathered together are excluded from our exception. So I think Mr. Jemmett is in order in correcting me on my definition. The matter was very fully gone into by the Competitions Committee, and that was the conclusion to which they arrived as to what the exception should be; that is only an expression of their view, which I think is reasonable.

MR. SCOTT: Should we not agree to a definition? There is a difference of opinion, and it ought not to be left to individual members to decide for themselves whether a competition is public or private. Some of these questions are clearly open to discussion.

THE CHAIRMAN: It is open to anyone to-night to suggest revision of the phraseology of this paragraph. If it is thought to be too comprehensive, or not comprehensive enough, I am prepared to receive amendments.

MR. SCOTT: My suggestion is that it should be "buildings paid for by public funds." I second Mr. Jemmett's suggestion that all competitions be included.

THE CHAIRMAN: That is, that the paragraph should end with the word "competitions," omitting "other than private competitions instituted by private individuals or firms."

MR. JEMMETT: My idea was that it should apply to all competitions, and I accept any wording which will give effect to that.

MR. MAURICE ADAMS said he did not think they could carry that through. He was rather inclined now to be satisfied with the Chairman's definition. The draft said "Competitions instituted by private individuals or firms." That was the best way to leave it, although he entirely agreed that in all competitions it would be better to have an independent assessor, if they could get one appointed. But he did not think the Institute could insist on an assessor in private concerns. If one of the architects invited to take part in a

private competition could say that the Institute was prepared to nominate a gentleman to act as assessor, and that he would serve for a nominal fee, that would be an enormous gain to architects as a body. They only wanted what was right. Sometimes it was depressing enough to see what publicly appointed assessors would do. But, with all these disadvantages, it was far better to have an assessor than not. He thought it would be very unwise to eliminate what the Competitions Committee had proposed. This meeting he began to see was called in consequence of discussions which had taken place on the Competitions Committee, and he hoped Mr. Wills would see his way to withdraw his opposition. He was sure that Mr. Wills was only anxious to arrive at the same conclusions as those which he (the speaker) had in view. The new regulation said "instituted by private individuals or firms." Sometimes such firms anticipated putting up very large buildings. For instance, Messrs. Peter Robinson's premises in Oxford Street were to be rebuilt, and a "private" competition had been held for that very important building, but the Institute could hardly have taken upon itself to write and suggest to the promoters that they must have an assessor. No doubt in this case the best conclusion had been arrived at, seeing that a highly esteemed member of the Institute and the A.A. had been fortunate enough to secure the commission. The Competitions Committee had been very judicious, it was perfectly plain there was really much difference between the two clauses. A church committee, or a parish-room committee, spending money subscribed by the public could not, he supposed, be construed into "private individuals" or "firms"; therefore it was a wholesome change, and he agreed that the proposed alteration should be made.

PROFESSOR S. D. ABSHED [F.] supported Mr. Adams. It would be going rather far, he said, to attempt to include competitions of every kind. There seemed, however, a little uncertainty in the reading of that paragraph, especially in regard to church and school work. There would be some uncertainty as to whether the paragraph was intended to apply to that class of buildings, because it was difficult to say whether they were to be provided for out of private moneys or not. He hoped Mr. Wills would withdraw his opposition, because, assuming competitions such as he referred to, it was clear that the promoters must conform to the Institute Regulations and appoint an assessor; and it would be an inducement to do so rather than decide the question themselves. They could not afford to lose the opportunity of making a selection from some half-dozen designs, and they would appoint an assessor and pay his fee; all the conditions which Mr. Wills looked forward to would be obtained. If an amendment were to be moved he would suggest it might be strengthened by altering the last line. Instead of "other than private Competitions instituted by private individuals or firms," he proposed it should read: "private competitions instituted by individuals or firms representing private interests." If he were in order he would move that amendment.

MR. HORACE CURTIS [A.]: On a point of order, should not the first amendment be taken first?

MR. JEMMETT: I would like mine put to the meeting.

MR. WILLS: Would it not save time to count the number of members present? I do not think there are forty,* and we are not likely to have any more at this hour.

MR. WOODWARD: It is a pity, after we have discussed the matter so far, to have to resort to a count. I take it that when we commenced these proceedings the meeting was in order.

THE SECRETARY, replying to the Chairman: It is in order to demand a count at any time.

MR. WILLS: My feeling is that, sooner or later, this question will crop up again, and I believe that whatever this meeting to-night passes, in a full meeting you will get that result negated.

MR. MAURICE ADAMS: A count having been demanded it must be acceded to; it would be out of order to go on. Moreover, in a question like this, which is of a rather momentous

character, although it has reduced itself to one of phraseology, and at this late stage of the session, I do not think, the vote having been challenged by Mr. Wills, that we can reasonably go on.

On the direction of the Chairman a count was taken, and it was reported that only 33 members were present. The Chairman thereupon ruled that the discussion could not continue, and closed the meeting.

CORRESPONDENCE.

Banks and the Building Act.

15 Bishopsgate, E.C., 19th July 1915.

To the Editor, JOURNAL R.I.B.A.,—

DEAR SIR,—It will interest bank architects in London to know that I have succeeded, on application, in getting the following reply from the London County Council:

"That the Council in the exercise of its powers under Section 207 of the London Building Act, 1894, do consent to alterations at — Road, Brixton, without complying with the provisions of Section 74 of the said Act, as shown on the plans submitted with the application."

Certain conditions follow as to doors, &c., which would vary in every case.

I should add that the premises were to be wholly occupied by the bank as office and residence—no part was to be let off. That would, of course, be quite another story, and introduce an entirely different set of conditions.—Yours faithfully,

C. H. BRODIE [F.].

Alien Enemy Members.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The letter of Mr. W. E. Vernon Crompton in your issue of 26th June cannot be permitted to pass without comment.

When the Institute found itself unable to expel its alien enemy members many of us were grievously disappointed. A certain sense of relief has now been afforded by the decision to delete their names from the KALENDAR. Let it be remembered that the R.I.B.A. in electing these gentlemen as Hon. Corresponding Members conferred upon them an honour. Individuals compose a nation and make the nation what it is, and these alien enemy members are individuals assisting to compose nations which have demonstrated to the world their inability to maintain any honours except those of their own peculiar brand. It is unthinkable that we, a learned Society holding our Charter direct from His Majesty, should tolerate association, however remote, with the enemies of our King and country.

Mr. Crompton argues that the relationship, so far as we as a Society are concerned, "is personal, not national; individual, not representative"; and he talks about a "fair trial." The former argument is granted. This life-and-death struggle is very "per-

* By-law 67 requires a quorum of "at least forty members" when a professional question is to be voted upon.

sonal," for most of us have loved ones engaged in fighting the enemy. As to giving our enemies a fair trial, Germany's trial at any rate has already taken place, and she stands condemned before the world. The "Court of Justice" has been Belgium. It is useless to argue that one or two of these alien enemies may protest. They are all tarred with the same brush, and if we wish as a nation to keep clean and wholesome we must avoid in the future all things Austro-German as we would avoid the plague. Our action is neither poor nor ungenerous. It is just and right, and I am confident it has the support of the majority of our members.—Faithfully yours,

G. SCOTT COCKRILL [A.].

Charles Edward Mallows; Joseph Arthur Reeve.

Mr. Cross's appreciative notice of our friend Charles Edward Mallows prompts me to add a word in accord. To my thinking, and I feel sure I am not alone in this experience, "magnetic" just applies to his personality, and affords a hint of the sunny brightness and energy that seemed always to emanate from him. Throughout the wide circle of his friends the recollection of this sunny quality in Mallows will assuredly remain undimmed.

It was his brilliant draughtsmanship that early distinguished him amongst architects of his day; but, as Mr. Cross observes, he was later on to develop powers of design of far deeper import, whilst none the less brilliant in their way. Of him as a good friend and as a good architect, I will only say now, in all sincerity, "He did his bit."

Mr. Wilsdon's notice of my old friend, J. A. Reeve, carries me back to the days when he was engaged on the painstaking survey which he made of the Fountains Abbey ruins, commissioned by the late Marquis of Ripon; for, then it was to him that I owed my first real lesson in reading an old building from the structure itself. Leading me on from the investigation of one elementary fact after another, such, for instance, as the hang of doors in their openings and the levels of floors, noting in which jamb the hooks were held and by what means each floor had been carried, incidentally he initiated me into fundamental points as well, such as the prevailing system of setting-out the work by bay-units, of which the spacing of voids and supports gave proof; and so, at length I left the place with a vision of something beyond the bare ruin, with some dim notion—vague enough, no doubt, raw beginner as I was—of the building in occupation by those for whom it had been devised.

It was several years afterwards that Reeve joined with others of us in forming a small circle of twelve members, to meet from time to time, an Architects' Round Table. I may safely assert that the nine survivors of this little band will ever bear in pleasant remembrance their happy association with Joseph Arthur Reeve.

WALTER MILLARD [A.].

THE EXAMINATIONS.

Preliminary.

The Preliminary Examination, qualifying for registration as Probationer R.I.B.A., was held in London, Bristol, and Manchester on the 8th and 9th June. Of the 80 candidates admitted, 36 were exempted from sitting, and the remaining 44 examined, with the following results:—

Centre.	Examined.	Passed.	Religated.
London	27	18	9
Bristol	8	5	3
Manchester . . .	9	5	4
	44	28	16

The passed and exempted candidates—numbering together 64—are as follow:—

- AITCHISON: Henry Maynard, 4 Buxton Road, Brighton.
 ALLISON: Frederick William Harforth, 36 Harchills Avenue, Chapelton Road, Leeds.
 ANDERSON: George, St. Giles' House, Norwich.
 ATCHLEY: Max Heriot Nevil Cuthbert, 23 St. John's Road, Clifton, Bristol.
 AYERS: William Cecil, 77 Ryan Street, W. Bowling, Bradford.
 BARBER: Norman Arthur, Vicarage Avenue, Derby.
 BATEMAN: John Ambrose, 56 Constantine Road, Hampstead.
 BENNETT: Harvey Ernest, 5 Douro Villas, Cheltenham.
 BENSON: Christopher Augustus, "Cartlett," 47 Pentre Street, Grange-town, Cardiff.
 BOOTH: Harry Ernest, 29 Sydney Street, Brighton.
 BROWN: Charles Robert, 2 Provident Place, Colchester.
 BUEKIT: Cecil, 3 Westbourne Road, Barnsbury, N.
 BYROM: Richard, 223 Tottington Road, Elton, Bury, Lancs.
 CHAUDHURI: Arya Kumar, "Laleham," Clarence Road, Clapham Park, S.W.
 CROSS: Walter Edward, 132 Richmond Road, Dalston, N.E.
 DAVIES: David Owen Harris, 81 Calabria Road, Highbury, N.
 EVANS: Leslie Maurice, 21 Forster St., Ashted, Birmingham.
 FIELDSEND: Henry, Mason's Arms, Aekworth, Pontefract.
 FISHER: Nancy Cooper, Kirk Villa, Church Row, South Ascot.
 GOLDTHORP: Alfred Reginald, 30 King Cross, Halifax, Yorks.
 GREEN: Allan, 3 Denby Mount, Oakworth, near Keighley.
 HARDY: Ernest Harold, 21 Belle Vue Road, Wandsworth Common, S.W.
 HARRIS: Samuel George Stanley, "Mons," Constitution Hill Road, Parkstone, Dorset.
 HARVEY: James Macgregor, 8 Beaumont Gate, Dowanhill, Glasgow.
 HAYWOOD: Algar Arthur Newton, 15 Farm St., Mayfair, W.
 HOLLIDAY: Albert Clifford, Parkfield, Gildersome, Leeds.
 HOLLINGSWORTH: Christopher Raymond, Manor House Offices, Barnsley.
 HONEYMAN: James MacLaren, H.M. Office of Works, 3 Parliament Square, Edinburgh.
 HUGHES: Eleanor Katherine Dorothy, Beaufort, Hengist Road, Bournemouth.
 JEPSON: Reginald, Ireton House, Rose Hill Street, Derby.
 JONES: Colin Lancelot, Oakfields, Cwmbran, Newport, Mon.
 KELLY: Stephen Stanislaus, Walmer, Sutton, co. Dublin.
 LAWRENCE: Fredk. Orchard, 164a Aighurth Road, Liverpool.
 LAWRENCE: Henry Matthew, 22 Marmion Street, Tamworth.
 LAWSON: Edwin Maddison, 2 Ivanhoe Terrace, Chester-le-Street.
 LEWIS: Ernest Wamsley, "Kia-Ora," Icen Road, Weymouth.
 MARSHALL: Thomas Leslie, "Oban," Hills Road, Cambridge.
 MEDD: Henry Alexander Nesbitt, The Vineyard, Abingdon.
 MORRAN: William Thomas, Queen's Hotel, Castle Street, Maesteg, Glam.
 MORROW: Leslie George, "Brent Lodge," Berkhamstead.
 NAPIER: James, c/o J. Burnet & Son, 239 St. Vincent Street, Glasgow.
 NOBLE: Charles, 9 Parsonage Road, Withington, Manchester.

PAPWORTH: Henry William, 5 Gall Road, March, Cambs.
 PEEVER: George Henry William, "Caradoc," Percy Street, Greenfields, Shrewsbury.
 PITE: Horace Victor Walter, 13 Elm Grove Road, Ealing.
 ROGERS: George Reynold Hubert, 17 Brynmill Crescent, Swansea.
 ROSE: Kenneth Woodhouse, The Mount, Halesowen.
 SCHOFIELD: Herbert Walter, 20 Haldane Road, Fulham, S.W.
 SHAW: Robert Philip, 26 North Bridge Street, Bathgate, Linlithgowshire.
 SLATER: Cyril, Municipal Offices, Babington Lane, Derby.
 SOMERSET: Douglas Forbes, Public Works Dept., Suva, Fiji.
 STEVENSON: James, Gateside, Ayr, N.B.
 STRIBLING: Herbert James, 80 High Street, Slough, Bucks.
 TANNER: Charles Puget, 110 St. George's Terrace, Jesmond, Newcastle-on-Tyne.
 TAYLOR: George Swan, 40 Balsusney Road, Kirkcaldy, N.B.
 THERANE: Abraham, 13 Shelone Terrace, Briton Ferry.
 VINE: Christian Courtenay, Park House, Exeter.
 WADDICAR: Arnold, Laburnham House, Pool Street, Bolton.
 WARD: Frank Vaughan, P.W.D., Suva, Fiji.
 WARD: Victor Ernest, "Seacroft," Westcross, Swansea.
 WESTGARTH: Silas, "Allansford," Cathedral Road, Cardiff.
 WHITE: Francis James, Bannadon, West Avenue, Exeter.
 WILLIAMS: Alun, "Brynheulog," Ogmere Vale, Glam.
 YARDLEY: James Howard, Rathmore, Stourbridge.

Intermediate.

The Intermediate Examination, qualifying for registration as Student R.I.B.A., was held in London, Bristol, and Manchester from the 4th to the 11th June. Twenty-one candidates entered, with the following results:—

Centre	Examined	Passed	Relegated
London	13	5	8
Bristol	3	2	1
Manchester	5	2	3
	21	9	12

The passed candidates are as follow, the names being given in order of merit:—

P=Probationer.

PHILP: Arthur Thomas [P. 1913]; 34 Alderney Street, S.W.
 FRANCIS: Bernard Thomas [P. 1912]; "Michigan," Watling Hill, St. Austell, Cornwall.
 JOHNSON: Henry Andrew [P. 1911]; The Vicarage, Great Harwood, Blackburn.
 WARWICK: James Guy [P. 1912]; 103 Park Road, Peterborough.
 TODD: Harold Edgar [P. 1912]; Hart's Cottage, Almondsbury, near Bristol.
 BANNISTER: Harry [P. 1914]; 65 Edith Grove, Fulham Road, S.W.
 WINERBAUM: Goodman George [P. 1911]; 13 "Shiplake," Calvert Avenue, Bethnal Green, N.E.
 METCALFE: Harry [P. 1913]; 173 Shear Brow, Blackburn.
 EMES: James Albert [P. 1905]; 14 Nightingale Square, Wandsworth Common, S.W.

The number of failures among the relegated candidates was as follows:—

A. Principal Styles and General History of Architecture	1
B1. Simple Applied Construction	8
B2. Theoretical Construction	8
CL. Historical Architecture:	
(a) Greek and Roman	2
(b) Byzantine and Romanesque	—
(c) French and English Gothic	—
(d) Italian, French, and English Renaissance	—
C2. Mathematics and Mechanics	1
C3. Design	5

Exemptions from the Intermediate.

The following Probationers, having produced satisfactory evidence of their training and qualifications, were exempted from sitting for the Intermediate Examination, and have been registered as Students:

DEY: Birendra Nath [P. 1913]; 36 Otago Street, Glasgow. [Government C.E. College, Sibpur.]
 DHAMA: Bhanwar Lall [P. 1913]; Consulting Architect's Office, Bombay. [University of Allahabad.]
 FORD: Thomas Francis [P. 1912]; 36 Hanover Park, S.E.
 GOURLAY: William [P. 1913]; 2 Balmoral Terrace, Queen's Park, Glasgow. [Glasgow School of Architecture.]
 HARDY: Thomas Charles [P. 1913]; 15 Carmichael Place, Langside, Glasgow. [Glasgow School of Architecture.]
 HONEYMAN: James Maclaren [P. 1915]; H.M. Office of Works, 3 Parliament Square, Edinburgh. [Glasgow School of Architecture.]
 LAWRENCE: Frederick Orchard [P. 1915]; 164A Aigburth Road, Liverpool. [Liverpool University.]
 LOUW: Ethel [P. 1913]; 11 Ladbroke Terrace, W. [King's College.]
 NAPIER: James [P. 1915]; c/o J. Burnet & Son, 239 St. Vincent Street, Glasgow. [Glasgow School of Architecture.]
 SHAW: Robert Philip [P. 1915]; 26 North Bridge Street, Bathgate, Linlithgowshire. [Edinburgh College of Art and Heriot Watt College.]

In accordance with the special concession granted by the Council to Probationers on military service who are candidates for the Intermediate Examination and whose Testimonies of Study have been approved, the following were also exempted:—

BARLOW: Smith [P. 1911]; "A" Company, Army Service Corps, Aldershot.
 BERRY: Harold [P. 1910]; "Knebworth," Station Road, New Barnet. (Queen Victoria Rifles.)
 BURLEIGH: Harold [P. 1911]; 7 Priory Road, West Hill, Hastings. (University of London O.T.C.)
 DANIEL: Thomas Llewellyn [P. 1909]; Bryn Dovey, 37 Cranbrook Park, Ilford. (Royal Naval Air Service.)
 EATON: Alexander Robert Charles [P. 1904]; 203 Neville Road, Forest Gate, E. (Bedfordshire Regiment.)
 HALL: Daniel Carby [P. 1911]; Prudential Buildings, Leeds. (Army Service Corps.)
 HALL: Herbert James [P. 1913]; 104 Cornerswell Road, Penarth, S. Wales. (Glamorgan Yeomanry.)
 HALL: William Basil [P. 1909]; 33 Carlingford Road, Hampstead, N.W. (Royal Fusiliers.)
 HOPE: William [P. 1908]; 37 Beverley Terrace, Cullercoats, Northumberland. (St. John's Ambulance Brigade.)
 HUNT: Reginald [P. 1911]; The Homestead, Sunningwell Road, Oxford. (Oxford and Bucks Light Infantry.)
 JARVIS: Harold Edgar [P. 1911]; 62 Blacker Road, Birkby, Huddersfield.
 LARKIN: Horatio Edward Arthur [P. 1914]; 71 Peel Street, Kensington, W. (13th County of London Territorials).
 MACKENZIE: Frederick Wheatley [P. 1908]; 20 Oakwood Gardens, Seven Kings, Essex. (Middlesex Regiment.)
 MANSFIELD: Roland Edward [P. 1912]; "Torquay," Torquay Drive, Leigh-on-Sea, Essex. (Royal Engineers.)
 MARTINDALE: Christopher James Fawcett [P. 1904]; Moor Side, Garden City, Carlisle. (Royal Engineers.)
 MEEGER: John Frederick Lees [P. 1911]; 11 Park Mount, Revidge, Blackburn. (Royal Engineers.)
 RAMSDEN: Eric Alfred [P. 1912]; 27 Hyde Terrace, Leeds. (West Yorks Regiment.)
 REED: William James [P. 1912]; 11 Theresa Street, Blaydon-upon-Tyne. (Royal Naval Air Service.)
 REES: Frederick William [P. 1911]; 1 Lan Park Road, Pontypriid. (Royal Engineers.)
 SHIELDS: George Darnley [P. 1912]; 258 Otley Road, Bradford. (Royal Engineers.)

- SMITH, Arthur [P. 1909]; 19 West Hill Road, Luton, Beds. (Royal Engineers.)
 TAYLOR: John Alexander Chisholm [P. 1909]; 29 Queen Street, Oldham. (10th Bn. Manchester Regt.)
 WHARF: Henry Francis [P. 1913]; 106 Coltman Street, Hull. (East Yorks Regiment.)
 WHITE: Raymond Charles [P. 1913]; 6 Berton Hill, Aylesbury, Bucks. (Royal Bucks Hussars.)
 WILLIAMS: Percy James [P. 1911]; "Carne," Carmarthen. (Welsh Regiment.)
 WOOD: Thomas Spencer [P. 1913]; Hawthorne House, Handsworth Wood. (Royal Field Artillery.)

Final and Special.

The Final and Special Examinations were held in London from the 24th June to the 2nd July. Of the 52 candidates examined, 27 passed, and the remaining 25 were relegated. The successful candidates, given in alphabetical order, are as follow:—

- ADAMS: Percy Joyue [S. 1911]; Fairmead, Woodside Road, Woodford, Essex.
 ANDREW: Harry [S. 1912]; 56 Whitefriargate, Hull.
 BALSARA: Pherozeah Fardoonji [Special]; 6 Highbury Place, Highbury, N.
 BENNETT: James [S. 1914]; c/o Messrs. John Burnet & Son, 239 St. Vincent Street, Glasgow.
 BRUCE: Reginald [Special]; 21 Holdenhurst Avenue, North Finchley, N.
 CATCHPOLE: Edgar Gooding [S. 1908]; 46 Christchurch Street, Ipswich.
 DUNCAN: Alexander McLauchlan [Special]; Rahoy, Lenzie, Dumbartonshire.
 FRANCIS: Eric Carwardine [S. 1911]; 14 St. Andrew Mansions, Dorset Street, W.
 FYFE: James Simpson [S. 1913]; 147 Hunterhouse Road, Ecclesall, Sheffield.
 HORNIMAN: John Henry [S. 1909]; c/o Messrs. Stevens & Gregson, 32 Victoria Street, S.W.
 LOWETH: Sidney Harold [S. 1913]; 67 Downs Park Road, Hackney Downs, N.E.
 MACLAURIN: Robert William [Special]; 8 Mecklenburgh Street, W.C. [Auckland, N.Z.]
 MELDRUM: Percy Hayman [Special]; 8 Mecklenburgh Street, W.C. [Melbourne.]
 MITCHELL: Cyril Hawthorn [S. 1914]; c/o Messrs. Alex. Cowan & Sons, Ltd., 24/25 Upper Thames Street, E.C. [Auckland, N.Z.]
 MUSMAN: Ernest Paul Brander [S. 1912]; 27 Upper Phillimore Place, Kensington, W.
 NICHOLS: Charles Edwin [S. 1911]; Rectory Farm, Ekington, Sheffield.
 PACE: Charles Lancashire [S. 1907]; 28 St. George's Street, Primrose Hill, N.W.
 REIVE: Thomas [S. 1908]; Glencairn, Erwood Road, Levenshulme, Manchester.
 ROBERTSON: Manning Durdin [S. 1911]; 50 Norfolk Sq., W.
 ROBINSON: Alfred Douglas [S. 1909]; The Abbey, Thorpe-Jesoken, Essex.
 SAYRE: Harvey Robert [S. 1905]; 3 Havelock Road, West Marlands, Southampton.
 *TAKEKOSHI: Kenzo; 160 Brompton Road, S.W.
 TURNER: Albert Isaac [S. 1909]; 65 Wilmington Gardens, New Barking, Essex.
 WALKER: Harold Frederick [S. 1913]; 13 New Street, Dorset Square, N.W.
 WARDROP: James Hastie [Special]; 8 Mecklenburgh Street, W.C. [Melbourne.]
 WILLIAMS: Enoch [S. 1908]; 50 Canada Road, Cardiff.
 YOUNG: William Cecil [S. 1910]; 19 King's Drive, Heaton Moor, Stockport.

* Under a special Regulation this gentleman, being a foreign subject and not eligible for membership, will be granted a Certificate.

The number of failures among the relegated candidates in the Final Examination was as follows:—

A. Design	12
B. Construction—	
(1) Foundations, Walls, Roofs, &c.	17
(2) Iron and Steel	19
C. Hygiene	19
D. Properties and Uses of Building Materials	9
E. The Ordinary Practice of Architecture	13
F. The Thesis	3

The Final: Designs approved.

The Board of Architectural Education announce that the designs submitted by the following Students have been approved:—

SUBJECT XXI.

(a) DESIGN FOR A BANDSTAND IN A PUBLIC PARK.

Brandon: C. J.	Hutton: L. D. H.	Tranmer: F.
Dartnall: J. A.	Kelloock: A. D.	Tubbs: G. B.
Day: N. F. C.	Munguia: G.	Wilkinson: F.
Duncan: R. A.	Reixa: F.	Woodhouse: F. G. M.

(b) DESIGN FOR A HOSTEL FOR MALE STUDENTS ON A DETACHED SUBURBAN SITE.

Sunter: M. C.	Vinden: G.
Taylor: R. V.	Wilson: J.

MINUTES. XVII.

At a Special General Meeting summoned by the Council under By-law 65, and held Monday, 5th July, 1915, at 8 p.m.—Present: Mr. H. V. Lanchester, *Vice-President*, in the Chair; 20 Fellows (including 9 members of the Council), 13 Associates (including 2 members of the Council), and 1 Licentiate, the Minutes of the Meeting held 21st June having been published in the JOURNAL were taken as read and signed as correct.

Professor S. D. Adshead [F.], acting in the absence of the Hon. Secretary, announced that Lieut. John Nixon Horsfield, of the Royal Naval Volunteer Division, *Associate*, elected 1907, had died of wounds received in the Gallipoli campaign, and it was resolved that the deep regrets of the Institute for the loss of its gallant Associate be recorded on the Minutes, and that a message expressing their heartfelt sympathy be sent on behalf of members to his widow.

The Chairman having announced the object of the meeting—viz., to consider an amendment of the Regulations for Architectural Competitions—moved that the following alterations proposed by the Council be made in the Regulations:—

1. The second paragraph to read:—"Members of the Royal Institute of British Architects and of its Allied Societies are only permitted to take part in Competitions in accordance with these Regulations, which are intended to apply to all Competitions other than private Competitions instituted by private individuals or firms."

2. The footnote at the bottom of the first page to be omitted.

Mr. Herbert A. Welch [A.] having seconded the motion, a discussion ensued, in the course of which Mr. A. R. Jemmett [F.] moved as an amendment that the Regulations be so altered as to be applicable to all competitions, including those promoted by private firms.

Professor Adshead proposed that the concluding words of the paragraph should read: "other than private competitions instituted by individuals or firms representing private interests."

Mr. Jemmett's amendment being about to be voted upon, Mr. Herbert W. Wills [F.] questioned whether the quorum required under By-law 67—viz., 40 members—was present, and suggested a count.

The Chairman directed a count, and it being reported that 33 members only were present, the Chairman closed the meeting, the proceedings terminating at 9.10 p.m.



The Godwin Bursary Report, 1914.

CONTINUATION SCHOOL BUILDINGS IN GERMANY AND AUSTRIA.

By MARTIN SHAW BRIGGS [A.], Godwin Bursar,

Author of "In the Heel of Italy," "Baroque Architecture," etc.

[The subject of this memoir was selected and approved in January 1914, the buildings described were visited in April and May, and the last pages were written only a few weeks before the commencement of the War. The situation has now changed so completely that it almost seems necessary to apologise for filling so many pages of the JOURNAL with an account of some of the architectural work of our enemies. But at the same time it must be remembered that the system of Continuation Schools in Germany and Austria has contributed materially to the extraordinary state of technical efficiency now confronting us, and that it is highly probable that in the near future England may find it necessary—as Scotland has already done—to consider the adoption of some very similar system. Finally, it is perhaps permissible to state that the writer, although by no means a proficient German scholar, was treated with uniform kindness and courtesy (except in one solitary instance at Cologne) by the large number of officials with whom he came into contact during his tour.]

I.

THE SCOPE AND ORGANISATION OF THE CONTINUATION SCHOOL.

THE type of educational building to be described in the following Report has no exact counterpart in England, and has been evolved in Germany and Austria during the last decade. To understand its place among German schools, and, moreover, to appreciate its value to architects and local authorities in our own country, we must have some idea of the complicated ramifications of the German educational system.

In Germany (and in most of the following statements Austria is to be included) nearly every child is educated by the State. This does not imply of necessity that class-distinctions are unknown—far from it—but certainly State-managed institutions bear less of a stigma than in our own land.

Three main parallel groups of schools are provided, and these are differentiated not by the social position, but rather by the intended vocations of the scholars. Thus a potential architect would attend a certain school because he was to be an architect. The rift between the three groups is distinct, but it is a vocational rift and not a social rift. Except in certain districts, the groups are separate and parallel from the outset, but in Bavaria the children of all classes are educated together up to their tenth year. The cost of education in all groups is low.

The highest grade of school is known as the High School or Higher School and has three subdivisions (*Gymnasium*, *Realgymnasium*, and *Oberrealschule*), according to the amount of Latin taught. Scholars from these schools proceed either to the universities, if they are to enter one of the "learned" professions, or to technical or commercial colleges if their vocation is technical. In this last section are included architects and engineers.

The next grade is known as the Middle School (or *Bürgerlicheschule* in Saxony and Baden), and corresponds to our "grammar schools," so far as there can be said to be any similarity at all. The classification resembles that of the High School—e.g., *Progymnasium*, *Realprogymnasium*, and *Realschule*.

The third grade is the Elementary School (*Volksschule*), and corresponds closely to our Elementary School. A German child, however, enters at 6 years of age and leaves at 14, the facilities for leaving at 12 or 13 so common in England being non-existent in Germany.

We now come to the type of school with which this Report is concerned—the Continuation School (*Fortbildungsschule*). Generally speaking, the great majority of German boys and a large number of girls are compelled by law to attend a Continuation School for from 5 to 10 hours per week between their fourteenth and eighteenth birthdays. The average attendance is probably seven or eight hours per week for three years, the school year extending over about 40 weeks. The law inaugurating this scheme was passed in 1891, but it is important to notice that powers are given to local authorities to carry out the recommendations and that in each district the whole scheme is a matter of local option. The importance of this fact can hardly be exaggerated. In the first place, the Continuation School system is not a ready-made scheme foisted on unwilling towns by Act of Parliament. But it has been adopted voluntarily and gradually by one district after another till hardly a single town of importance remains without an organisation. This is the strongest recommendation any such system could have in the eyes of a business man. In the second place, each district arranges its own curriculum and requirements to suit local conditions, being subject to very slight control by the Imperial Government. This fact has, of course, a considerable influence on school buildings.

No boy or girl within the scope of any local educational by-laws is excused on the ground of social position or means. All must attend these schools unless they are being educated at some approved institution elsewhere. It must not be thought that Germans are by nature so subservient and docile that this drastic change of method was brought about without any opposition. On the contrary, opinion in certain quarters has been very hostile, and the great city of Hamburg has only just realised the inevitable. South Germany has been the pioneer of the movement, and Prussia has moved with much more deliberation. Nor must it be thought that the systems of different districts are moulded to the same pattern or controlled by one autocrat in Berlin. This is so far from being the case that the writer's task was rendered much more difficult by the lack of any general rules or statistics. In each town is a separate organisation, and sometimes there is little intercourse between separate schools of the same town. On the other hand, the mere fact of all this variation makes a study of methods and of buildings the more valuable to an interested foreigner. We are, as a nation, far behind Germany in this remarkable system, but we should be able to profit by her mistakes and her experiments all the more because of local differences. These local differences are educational, but they are of necessity architectural also, for each varying curriculum produces another type of school building. They may be summarised as follows.

German educational opinion is sharply divided into two camps in regard to the training given in Continuation Schools. One party holds that the main object of such training should be to fit a boy for his career in after-life and should not be too general in character. In other words, they believe that if a boy is to be a joiner, he should be taught as much joinery as possible, and very little of other subjects; or that his education should be "vocational." But this party is again divided into two sections, one maintaining that his training in joinery should be purely theoretical, and should consist of class teaching combined with drawing; the other urging that he should also undergo workshop training in the school. The natural result of this divergence in the "vocational" party is to produce two types of "vocational" Continuation Schools, one with workshops and one without. Then there is the opposition camp which believes in confining Continuation teaching to such general subjects as may strengthen the boy's character, regardless of his intended position in after-life, and this theory, of course, involves theoretical teaching only. But with the development of the system and the lapse of time there is a tendency for a

compromise to be reached, and now the most serious difference, so far as buildings are concerned, lies between the workshop-school and the school without workshops.

Another aspect of the question to be borne in mind is the strength of the apprenticeship system in Germany. Practically all workers in the "skilled" trades have to be apprenticed, and thus the success of the school lies very largely in the hands of the local employers of labour, who invariably take the principal part in its organisation and management. Conversely they, and not the parents of the scholars, are made responsible for attendance at school, paying all fees (which are nominal only) and all fines. But in Germany, as in England, though in a less degree, there is bound to be always a certain percentage of boys engaged in "blind-alley" occupations, as well as many others whose vocations are so menial in character that they cannot well be taught in a school. Of the first kind one might mention the errand-boy, the telegraph-boy and the lift-boy; of the second, the labourer, the dustman and the road-sweeper. These boys are in many districts, and in increasing numbers, also educated in Continuation Schools, and their teaching obviously cannot be "vocational."

The result of all these years of experience and experiment has been to evolve three main groups of Continuation Schools for boys, and for the purposes of this Report the following classification may be regarded as accurate:—

(i) The Industrial Continuation School (*Gewerbliche Fortbildungsschule*), where boys are educated for a definite vocation or trade, for six to eight hours per week during three years between their fourteenth and eighteenth birthdays. These figures, however, vary greatly, as I have said, and Industrial Continuation Schools may be further divided into schools where practical workshop training is given and those where the teaching is theoretical in character.

(ii) The Commercial Continuation School (*Kaufmännische Fortbildungsschule*), where boys engaged in shops, warehouses, and other mercantile establishments are educated in commercial subjects on the same lines as those in the Industrial section. Such a school has, of course, no workshops, but usually has laboratories for science teaching.

(iii) The General Continuation School (*Allgemeine Fortbildungsschule*) for those boys whose occupations are so casual or so menial that no vocational teaching can be applied to them. This third type of school is now instituted in most German cities of any size, but is not yet universal, as the first two may be said to be. For purposes of administration the General Continuation classes are frequently grouped with the Industrial branch, but there is no general rule.

To these three types of school for boys must be added a fourth where girls are taught. Nowhere in Germany, so far as the writer is aware, is compulsion applied to all girls as it is tending to be applied to all boys. Nor has even a limited measure of compulsion become universal.

But in most centres all girls employed in shops and offices, in any trade or vocation outside their homes, are compelled to attend a Continuation School specially devoted to domestic (*Weibliche*) subjects. It is thus frankly assumed that the German girl will eventually marry, and that training in cookery and housewifery must be provided. In very few cases are girls compelled to attend commercial or industrial classes, even though they may be employed in commerce or industry.

For the sake of clearness the four types are again tabulated:—

For boys (i) The Industrial or Trade Continuation School (*Gewerbliche Fortbildungsschule*)—

(a) With practical workshop teaching.

(b) Without practical workshop teaching.

For boys (ii) The Commercial Continuation School (*Kaufmännische Fortbildungsschule*).

For boys (iii) The General Continuation School (*Allgemeine Fortbildungsschule*).

For girls (iv) The Domestic Continuation School (*Weibliche Fortbildungsschule*).

So far, however, the one striking difference between England and Germany has been in the application of compulsion in the latter country. In England there are many good technical schools and secondary schools, where a clever boy with a scholarship may get excellent teaching free. But he

has to work in his evenings, after a long and tiring day at a bench or a counter. And this very fact restricts continuation schools in England to the talented, the industrious and the ambitious, leaving the great majority untouched.

The most striking feature in the German system is, that not only are boys *compelled* to attend these schools, but that they must attend *in the daytime*; in other words, in their employers' time. Yet such is the case, and the employers have (reluctantly in some instances) now nearly all come into line. They sacrifice eight hours or so per week of their apprentices' time, but they get better apprentices. Such, in brief, is the theory of the continuation school system in Germany and in Austria, the system which is arousing such intense interest and even anxiety among all thinking Englishmen to-day.

II.

THE NEED FOR SPECIALLY DESIGNED BUILDINGS.

The problem from the architect's standpoint is thus very clear. It is required to provide suitable accommodation in every centre of population for a large number of scholars, who attend classes some eight hours a week (on an average) in the daytime. In ordinary cases the number of these scholars may be estimated at from 2 to 2½ per cent. of the total population of the town or district. Thus in a city of 100,000 inhabitants one might expect to find 2,000 to 2,500 scholars on the books of the various Continuation Schools. The nature of the problem is obviously unusual. The usual formula as to thirty scholars in a classroom and so much space per head is quite useless. These scholars are never collected in the school at any one time, and they are studying a great variety of subjects.

Before proceeding further let us see what sort of a time-table prevails in a typical school of each kind. Certain subjects are common to all three types of boys' schools—viz., dictation and business letter writing, German literature, religious instruction, practical arithmetic, and a subject called *bürgerkunde*, which may be translated as "the duties of a citizen." The "General" schools confine themselves to a curriculum of this type for the full six hours per week, or whatever the stipulated time may be. In the "Industrial" schools these subjects occupy a smaller portion of the time-table: one hour is usually devoted to a study of the scholar's particular trade (its history and organisation, materials and tools required, &c.), and three hours or so to drawing applied to his own needs. If practical teaching is given, it is usually only given in the *third* year, and thus forms only a small part of the whole curriculum. In the "Commercial" schools the place of trade-teaching is taken by ordinary commercial subjects, such as bookkeeping, typewriting and chemistry. In the "Domestic" schools for girls, as stated above, the only subjects taught are cooking, sewing and housewifery generally.

Assuming that a town of, say, 100,000 inhabitants has just decided to adopt a system of continuation schools, as permitted by the Act of 1891, how are the 2,000 or 2,500 scholars thus enrolled to be accommodated? This is the question which the writer has attempted to answer in this report, thanks to the facilities provided for him, as Godwin Bursar of the R.I.B.A., by our own Board of Education, by our Foreign Office and by various authorities in Germany and Austria. It would have been impossible to undertake a general survey of German schools of all types, and it is pleasant to think that it would also have been unnecessary, for in many respects our school architects lead the world. It would not have been altogether desirable to concentrate on German technical schools for various reasons, but the type of building chosen is valuable to us because it is unique. The German Continuation School building need not be regarded as perfect, or even, in many cases, as anything more than an exceedingly interesting experiment. But in view of the recent trend in educational opinion it may become very valuable to us as a model. Hence the writer devoted very little time to questions of construction and detail—except in so far as these differed from English practice—and concentrated his energies on planning and equipment. During a tour of five weeks eighteen towns were visited, and in every town one or more schools were studied in great detail, besides others casually inspected. Many of the plans accompanying this report have been prepared from rough notes rapidly

made on the spot, but in other cases printed plans were available in the *Jahresbericht* or annual report of each school.

To return to the hypothetical German town about to provide buildings for a large number of scholars, the first thought that would occur to an economical soul would be that possibly existing buildings might be utilised. To this possibility the writer devoted a considerable amount of attention during his tour. Perhaps there is a disused Elementary School available, or an empty block of buildings formerly used by the municipality for other purposes. Why not utilise some structure of this sort and thereby save the great expense of erecting a new school?

Taking an occupied Elementary School first, it requires little imagination to realise the difference in size between the *average* elementary scholar (of ten) and the *average* continuation scholar (of sixteen). In other words, though it would be possible for the lowest class of continuation scholars to sit comfortably at the same desks and on the same seats as the highest class of elementary scholars, it would be quite impossible for the higher classes of the former to use the desks and seats of the middle classes of the latter with any convenience. It is therefore admitted in Germany that one or two classrooms in each elementary school may be utilised for "General" continuation classes where no special apparatus or equipment is required. Continuation scholars and teachers using elementary schools on these terms are known as "guests," and perhaps that word explains why—sooner or later—the "guest" system is always regarded as a failure. Even from the scholars' point of view there are drawbacks, for though the younger scholars may comfortably be placed on seats for small boys of thirteen, a lanky youth of seventeen may find matters very different. Similarly the conveniences are unsuitable for older scholars. The teachers very naturally dislike being "guests" on sufferance, without any studies or private rooms of their own, and do not readily mix with the staff of the elementary schools. They have often no place to keep their books or stationery. Lastly, there are all sorts of administrative difficulties in this system of scattered classes which can easily be realised.

Next we may assume that a disused Elementary School is available, and in such a case of course the rooms may be stripped of all furniture as a preliminary measure. But a classroom accurately planned for, say, thirty juniors cannot be adapted to the needs of, say, twenty-five seniors without some little waste of space, and even then conditions are not all favourable. Very few old Elementary Schools are disused unless there is some good reason for it, and if such a building is too antiquated for its original purpose there is no reason why it should be suited for a Continuation School. The latter must, above all things, have rooms where drawing may be taught. Very few elementary classrooms can be made perfectly satisfactory for such purposes. Even if the natural lighting is adequate, artificial light is seldom suitable, and the installation of electric light is inevitable. German practice also insists on a basin or sink being provided in every classroom used for drawing.

The writer studied two of these transformed Elementary Schools in detail—the Trade Continuation School at Gelsenkirchen in Westphalia and the Trade Continuation School at Düsseldorf.

The former building (Fig. 1) is only six years old, and was designed as a "mixed" elementary school—i.e., for boys and girls. The continuation scholars are all boys. The staircase is divided into two portions by an ornamental railing (which has not been removed), and is therefore unnecessarily wide. The conveniences are, of course, ridiculously plentiful, being designed for both sexes and for a much larger number of scholars than those now using the school. The classrooms are not of the size required and classes are cramped for space. An assembly-hall has been contrived in the attic storey. There is a needlessly ample playground, and a small lodge for the caretaker by the entrance gates. Though suited for its purpose as a branch Elementary School, the building is situated at some distance from the centre of the town. In view of all these facts, it is not surprising to learn that plans for a large new school are being prepared, to accommodate 3,000 scholars and to cost £22,500. In the present building there is no practical teaching, except for painters and decorators, who work in chronic discomfort by artificial light in a dark and ill-ventilated cellar!

The Central Trade Continuation School at Düsseldorf (see Fig. 2), though an older building, has been so skilfully adapted to its new purpose that when a large new school, now projected at a cost of £75,000, is built the older school will be retained for certain trades. The way in which

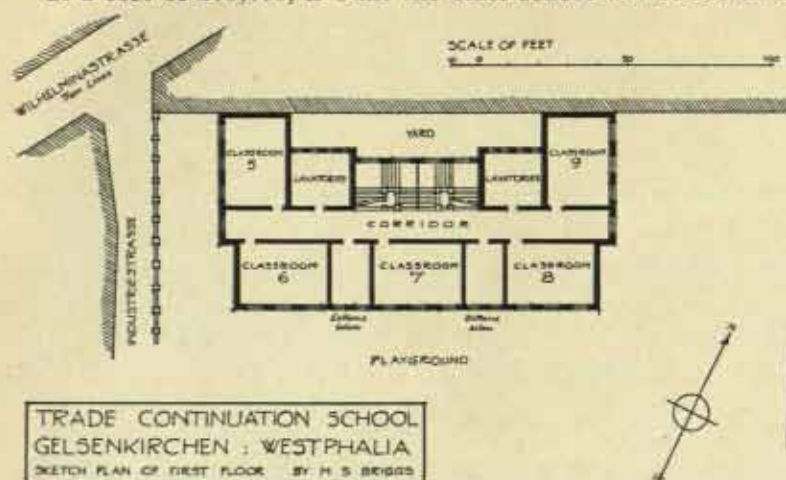


FIG. 1.

thoroughfares, are often found in Germany.

In this case the architect had to provide workshops for practical trade teaching besides modernising the other rooms, and his method has been very successful. At each end of the Elementary School

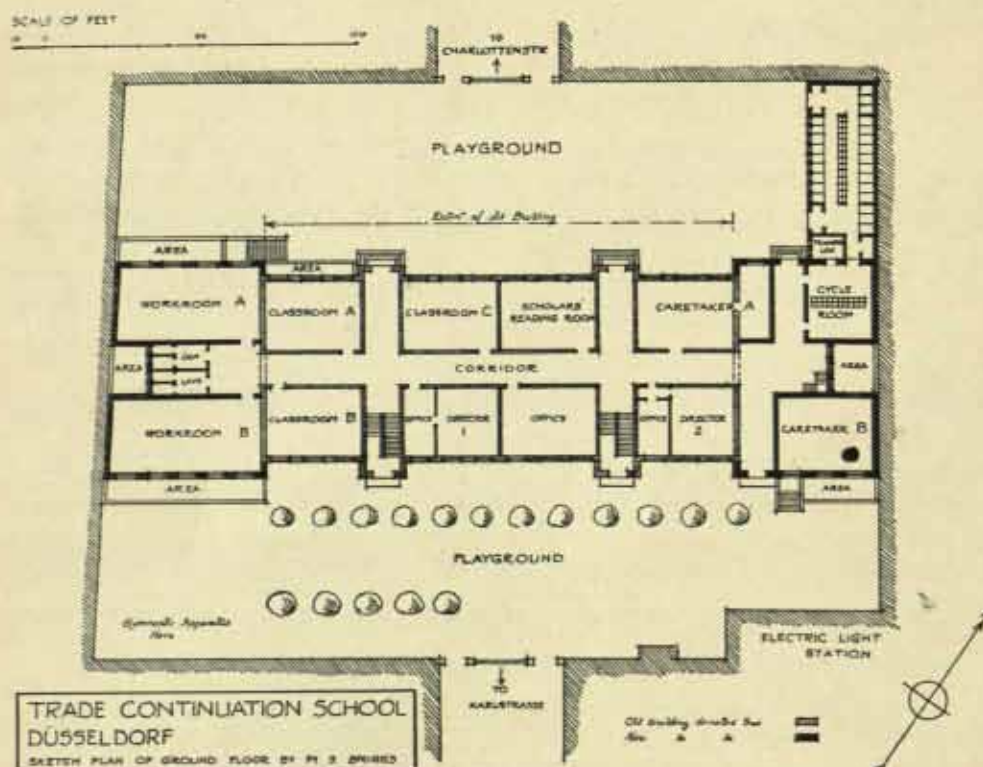


FIG. 2.

and similarly over "Workroom B" and "Classroom B." The same principle holds good at the east end, over the Cycle Room and over "Caretaker B," &c. The addition of these workrooms and of the excellent block of lavatories on the north has of course considerably diminished the area of

the alterations have been arranged is best understood by a reference to the plan, where the original building is shown hatched, the new work being in black. The school is situated near the centre of the city between the Charlottenstrasse and the Karlstrasse, but has no frontage to either street. It occupies the wide open space between the houses on these two streets and is reached by short approach roads from both, with large playground. It is worth noting that these schools in congested districts, approached thus from main

block he added a wing containing workshops, &c. The new rooms are much larger than the old classrooms, but are of the same height, and are so arranged, where possible, that they communicate directly with the old classrooms used for theoretical teaching in the same subjects. Thus on most of the upper floors the workroom over "Workroom A" connects with the classroom over "Classroom A,"

the playground, but a large open space is less essential for older scholars than for an elementary school.

This school is not solely used for compulsory Continuation scholars. There are trade classes for adults in the evening in the same rooms, and there are also a few classes for manual work for scholars from the elementary schools in their eighth year. In very modern elementary schools, as in England, manual workshops are always provided, so that there is no need for these young boys to be brought thus into the Continuation schools before their time.

The trades taught in this school are grouped by the Düsseldorf authorities as "heavy trades," and include mechanics, engineers, electricians, "fine" mechanics (*e.g.* watchmakers, opticians, cycle and motor engineers, &c.), joiners, furniture-makers, bookbinders, printers, photographers, tailors and modellers.

Besides rooms actually used for teaching, there are two directors' rooms (the director is the head-master), accommodation for two caretakers and their families, a cycle room, a reading-room for the scholars, and offices for clerks. The number of compulsory Continuation scholars now on the books is about 2,000, all of whom are boys.

At Hildesheim a very similar extension was built two years ago. The new wing contains trade workshops and extends back into the playground or open space behind the main block, which has its longest side towards a street (Rathhausstrasse). In this building are housed both trade and commercial Continuation scholars, about 1,600 in all, but the commercial classes will probably be removed in two or three years to a new school in connection with a projected Museum of Commerce for the town.

At Elberfeld I visited the Central Trade Continuation School at the corner of Karlstrasse and Mathildenstrasse, near the centre of the town. This large and extraordinarily prosperous city is badly situated from an architect's point of view, being crowded on the slopes of a narrow river valley, like some of those West Riding towns with which it has so much in common. The school in question stands at the corner of two narrow streets near the centre of the town, on a site which could hardly be worse for its purpose. It was originally an Elementary School, and appears to be about sixty years old. It consists of three floors and a basement, and is cramped, ill-equipped and badly lit. Besides the usual rooms for the director and his clerks, altogether inadequate, there are nine rooms available for teaching purposes. The remainder of the trade classes are scattered about the city in fifteen different rooms. It need hardly be said that trade teaching—much less practical trade teaching—cannot be carried on satisfactorily in such quarters, and one is not surprised to learn that it has been decided to commence the erection next year of a large new central Trade Continuation School at a cost of about £50,000, including equipment. This will, of course, absorb all the trade scholars from the present central school and from the various centres above mentioned.

At Chemnitz in Saxony, and at Aussig in Austria, where fine Trade Continuation Schools have been erected recently, I found that large numbers of the Trade scholars requiring instruction of a less elaborate type were taught in discarded Elementary Schools, and indeed this is commonly the case all over Germany and in Austria.

But from the short description of the schools visited it will be seen that in all cases except Düsseldorf—where conditions were comparatively favourable and where the plan was very cleverly adapted—it has become necessary to face the cost of a new building, specially designed for the purpose. At the outset of my journey it was suggested to me that I should not confine my studies exclusively to new and expensive schools, but that I should also visit some places where the authorities had resorted to "make-shifts." As a result of my researches I am convinced that German opinion is rapidly inclining towards a policy of special buildings for Trade Continuation Schools, and that this policy has been necessitated by many years of experiment and experience in schools such as I have described. It may be said now that an old Elementary School is quite unsuitable for practical Trade Continuation Classes, and usually unfit for theoretical trade teaching.

For the education of the unskilled workers the ordinary classroom is permissible in certain circumstances, but the seats are invariably uncomfortable, and the conveniences—as well as the rooms for teachers and clerks—are inadequate. For these reasons, and also from the point of view of organisation, the unskilled workers will probably be included in the same building as trade scholars or commercial scholars sooner or later.

As regards the Commercial Continuation Classes, the use of old school buildings is more reasonable, though still undesirable. By a curious coincidence only one of the six adapted Commercial Continuation Schools that I visited appeared to have been built as a school, the rest being designed for offices or warehouses.

In Cologne the Commercial Continuation School in Grosse Telegraphen Strasse was formerly used as Poor Law offices, and does not appear to be less than 50 years old. It consisted originally of a block of buildings two storeys in height, facing the street, with end wings three storeys in height. Over the central portion a third storey and a mansard have been added, all of light fireproof material, for the purposes of the school. The scholars now number about 3,000, and are of both sexes, the great majority boys. The sexes are rigorously separated, though this custom is by no means universal in Germany, and the girls use the top floor (which is splendidly lit) for cooking and other domestic subjects. In most towns boys and girls are taught in entirely separate schools where Continuation Classes are concerned, the domestic subjects for girls being taught in rooms attached to Elementary Schools and used also by the older elementary scholars. Returning to the Cologne example, we find that most of the building except the top storey is used for classrooms. These do not average more than 10 feet high, but appear to be adequately lit, and are decorated in light colours. As in most Commercial Schools, we find here a room for druggists or chemists, who do not appear to be grouped with the industrial trades in Germany. This room is a combined laboratory and lecture theatre, situated at an angle of the building, and thus having windows on two sides. The cost of its equipment, amounting to about £200, was entirely defrayed by the druggists of the city. The weak point of this building is not the rooms used for teaching, but the somewhat mean corridors and staircases and the absence of proper provision for the scholars' cloaks, which are all hung on hooks round the classroom walls. The playground is divided into two portions by a double range of conveniences for the two sexes, placed back to back. Nine w.c.'s and urinals are provided for boys, nine w.c.'s for girls, and one w.c. for male and female teachers respectively. Electric light has been installed throughout, and the whole building has been tastefully though simply decorated.

But in spite of the fact that this school is now probably quite fitted for its purpose, it must be borne in mind that its remodelling has been a very expensive matter, which only the high price of land in the centre of the city would justify in preference to an entirely new building. The same obstacle is now perplexing the Cologne municipality in another direction, for the cost of a centre site for the huge Trade Continuation School now projected is expected to exceed £50,000, and though the civic authorities own about a quarter of the ground in the middle of the city, they hesitate to devote so valuable an area to any school.

A Commercial Continuation School must be centrally placed, even more than others, for its pupils are chiefly shop assistants, office boys, etc.; and in Munich an old Elementary School is still used on account of its position. Although Munich has led the way with elaborate new Trade School buildings, this old-fashioned Commercial School has been remodelled and retained.

In Stuttgart and in Magdeburg the Commercial Continuation classes occupy antiquated and shabby buildings in the centre of the town; in Strassburg and Gelsenkirchen they are even less adequately housed.

A great deal has been written of late about the German Continuation School, and photographs of boys learning their various trades in Munich classrooms are now familiar to educationists in this country. A study of these pictures—of elaborately fitted workshops and wonderful laboratories—

and of most of the literature available before leaving England had led me to expect a series of palatial buildings, such as those in Vienna, Frankfort, and Munich. But the reality was very different. Excepting remote Königsberg on the Russian frontier, I visited every town where new buildings of any interest had been erected to my knowledge, and was surprised to find that they were the exception rather than the rule. A well-informed German authority wrote in 1912 that only ten per cent. of the total number of compulsory Continuation scholars in the country were in new or suitable buildings. But this percentage is being altered very rapidly, as will have been realised from the figures I have given. Nearly every town is now considering a building scheme for one or more schools, led by Berlin, where the vast sum of £200,000 is to be expended—so report says—on one Central Trade Continuation School for the city, and by conservative Hamburg—a laggard convert—with a scheme only second in magnitude to that of the capital.

III.

THE PLANNING OF CONTINUATION SCHOOL BUILDINGS.

Admitting, then, that a specially designed building is desirable for every type of Continuation School and essential for the Trade type, what form should it take, and how should it differ from an Elementary School on the one hand and an ordinary Technical School on the other?

It cannot be claimed that Germany has yet evolved any type which can be regarded as either permanent or national. One must rather regard her buildings as a series of interesting experiments, produced by the varying local conditions of her many tributary States with their almost autonomous educational systems.

At the very outset one meets a difficult problem in the question of the site. Should the school be one large central establishment, or are the classes more effectively organised in a number of district schools in each city? In Germany there is a certain amount of unanimity on this question, and the central school seems the ideal for a small town up to, say, 100,000 inhabitants. For towns of 200,000 or over there is a growing tendency to have several district schools; and in Vienna, where all the skilled trades are gathered in one enormous building, some distance from the centre of the city, traffic is apt to become disorganised when the scholars are released! For this reason it is questionable whether towns so large as Berlin, Hamburg, and Cologne are well advised in carrying concentration to the point they appear to be attempting, and whether they would not do better to profit by the example of Munich and Frankfort, where the district school is considered to be the best solution.

But hardly anywhere do we find all the four types of Continuation School mentioned in Chapter I. combined in one single building.

The only instance known to me is that at Bonn, which happened to be the first school I visited on my tour. Here the whole of the Continuation scholars in the city, at present about 2,200 in number, are taught. The 250 girls are included in the Commercial section, though they are studying cookery and domestic economy; and the boys are divided into Trade and Commercial sections, the unskilled workers being included in the former group.

The population of Bonn is about 90,000, and for a larger town a single school could become unwieldy. Moreover (and this is most important) Bonn is one of the places where workshop-teaching is not in favour, and therefore a smaller and simpler plan is possible. A school with workshops as elaborate as at Aussig, or even at Chemnitz, costs far more than one where theoretical teaching only is given, and also occupies far more space. On the other hand, this school at Bonn is very generously equipped in other respects.

Comparing the plans (Figs. 3 and 4) with English notions of a secondary school, we find many points in common. But we must remember that this is a compulsory school for all classes, that

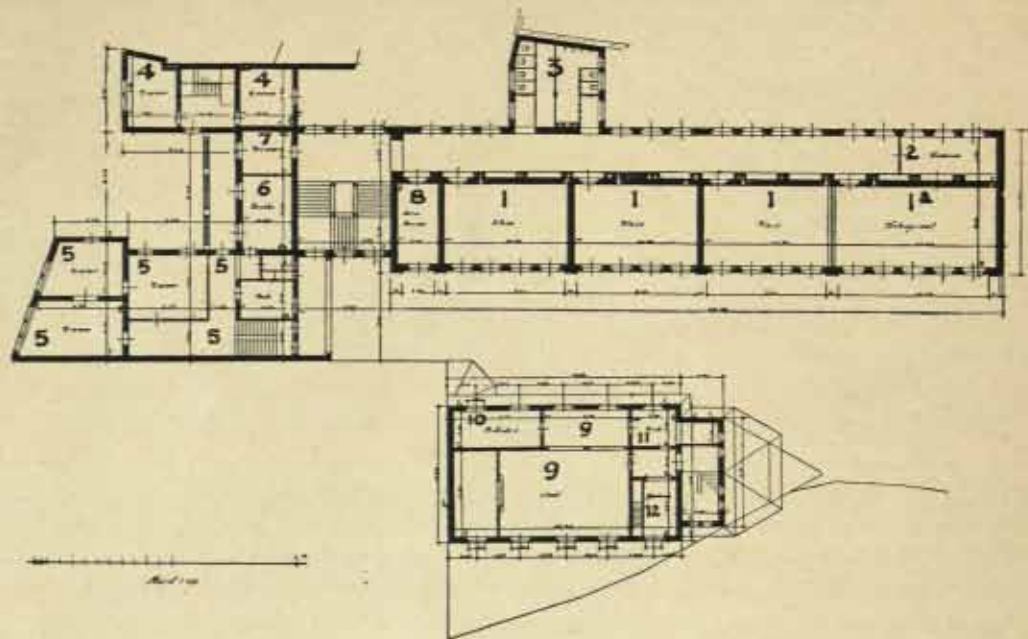


Fig. 3. CONTINUATION SCHOOL, BONN: SECOND FLOOR PLAN.

1. Classroom. 1a. Lecture Room. 2. Study. 3. Lavatories. 4. Caretaker's Rooms. 5. Headmaster's Rooms. 6. Headmaster's Study. 7. Waiting Room. 8. Clerks. 9. Recreation Room. 10. Library. 11. Kitchen. 12. Cloaks.

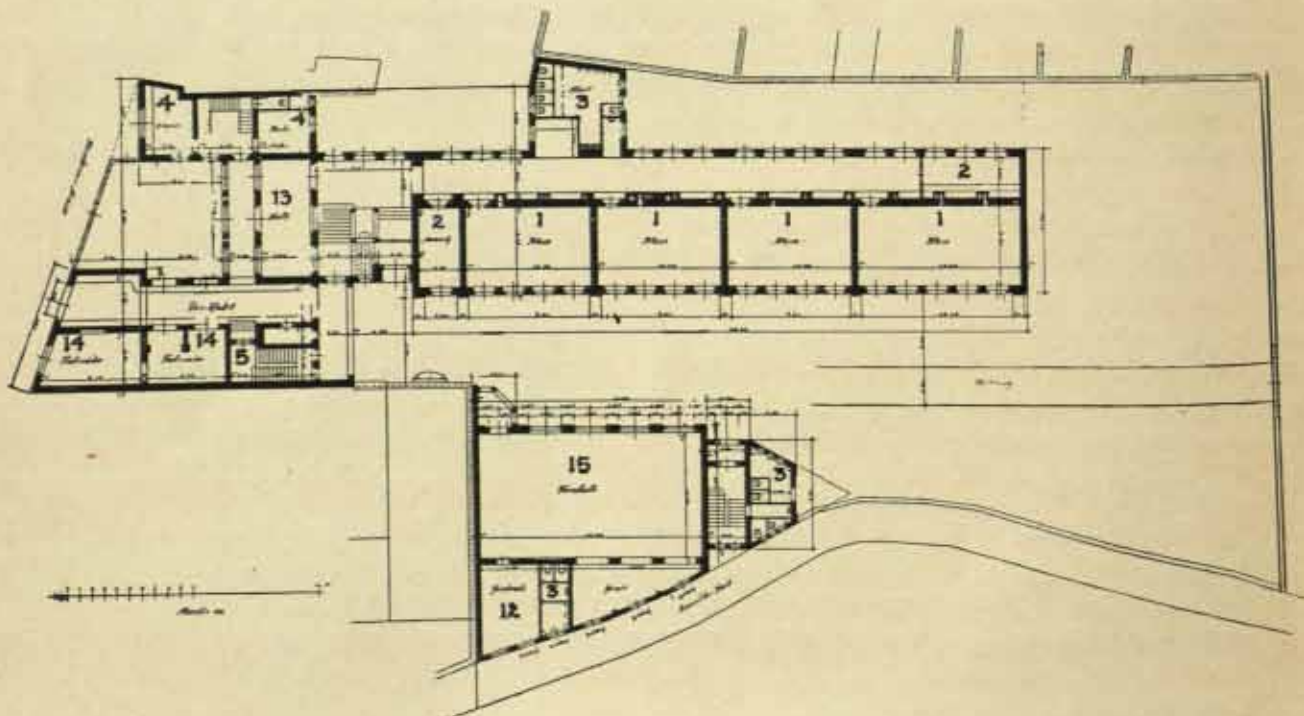


Fig. 4. CONTINUATION SCHOOL, BONN: FIRST FLOOR PLAN.

1. Classroom. 2. Study. 3. Lavatories. 4. Caretaker's House. 5. Stairs to Headmaster's House. 12. Cloaks. 13. Entrance H. H. 14. Cycles. 15. Gymnasium.

there are no fees beyond a merely nominal charge, and that the scholars only attend some six to ten hours a week. And though this school is, so far as my experience goes, unique, yet it is modern, admirably equipped, and may be regarded as an excellent model to study. It is a Continuation School pure and simple; not a Trade Continuation School, nor a Commercial Continuation School, nor a General Continuation School, nor a Domestic Continuation School for girls; but all four combined in one building under one director.

The site is awkwardly shaped, and lies on a tram-route a few minutes from the centre of the city. As the classrooms are arranged with a view to aspect, the main axis of the building runs along the depth of the site, oblique and not normal to the frontage. The façade is recessed, and is also oblique, but—as will be seen from the plan—is ingeniously treated. On the right, as one enters the courtyard, are large bicycle-rooms; beyond them, in the corner, the hall and staircase giving access to the Director's house above. In the centre is a fine vestibule and staircase, forming the entrance to the school, and on the left is the caretaker's house on two floors. The height of the building is considerable, and includes four full storeys, the top storey in front being formed in the roof. In the front block, besides the Director's and caretaker's apartments, cycle-rooms, and vestibule already mentioned, there is a study for the Director with waiting-room attached, on the first floor; a teachers' common-room on the second floor; a small workshop for the printing trades and a cookery school for girls on the third floor.

The building in the rear contains only classrooms, with a wide corridor closed by iron gates containing recesses for the scholars' cloaks. It will be noted on the plan how these recesses are contrived between the numerous flues for hot air. From this corridor one enters the small block containing lavatories, etc. There are a few small rooms used as studies or museums in connection with the classrooms, and there is also a room or alcove fitted for the storage of drawing-boards, an important consideration in all such schools. Most of the classrooms are of the ordinary type, but there is a large room or theatre for science teaching, and on the second floor two classrooms can be united for lantern lectures, etc., being divided by a movable partition only.

In a detached building across the playground are a number of rooms used for recreation and for social functions. It is not yet the invariable rule to provide these facilities, and indeed they are only found in a few cases, but there will probably be a tendency to develop this side of school life in the future. Most Continuation Schools include a certain amount of physical drill in their curriculum, but only occasionally is a gymnasium provided. More often gymnastic apparatus is fixed in the playground, or the gymnasium of some neighbouring Elementary School is borrowed. Bonn is exceptional in having a fine gymnasium, 59 feet by 33 feet, with a cloakroom attached. The floor is covered with cork lino, which is also extensively used in the classrooms. Above is a large room for games, etc., measuring 47 feet by 23 ft., with a rostrum at one end. Adjoining is an alcove for use as a reading-room, whence doors open into a cloakroom and into a small kitchen where light refreshments are prepared for the scholars.

Most schools have a "Scholars' Association," which is run by the scholars themselves and which arranges all matters outside the actual scholastic routine.

Apart from accommodation, there is much to arrest the attention of an architect in this fine new school. The staircase and the corridors especially are decorated with a freshness of conception and an understanding of colour which are apt to be lacking in the stereotyped English school building.

The cost of the building was about £24,000, and of the site about £5,000. The designs were prepared by the City Architect. It is worth while mentioning at this point that there is no handbook on these buildings and that no rules have yet been tabulated. Hence a town desiring to build a Continuation School sends its *Schulrat* (Education Officer), its *Baurat* (Municipal Architect), and a deputation from the City Fathers on an expensive and, no doubt, enjoyable tour, visiting all places where a Continuation School has been built recently. We are so apt to credit the German nation with

being infested with officials and rules that it is pleasant to exonerate it in this case. In fact, the complete lack of any sort of standard or method made my own work much more difficult.

Frankfort-on-Main, the next city at which I stopped after leaving Bonn, is another example where very little trade teaching, comparatively speaking, is done in the Continuation School. The population is over 440,000 and there are several Continuation Schools in different districts.

The girls are all taught, apart from the boys, in an old building in the middle of the town. The boys are not so rigidly separated into Trade, Commercial, and General sections as in many towns, and these three groups are taught together in each district centre. For this purpose there are three educational districts—northern, southern, and western. In the first two, modern buildings have been

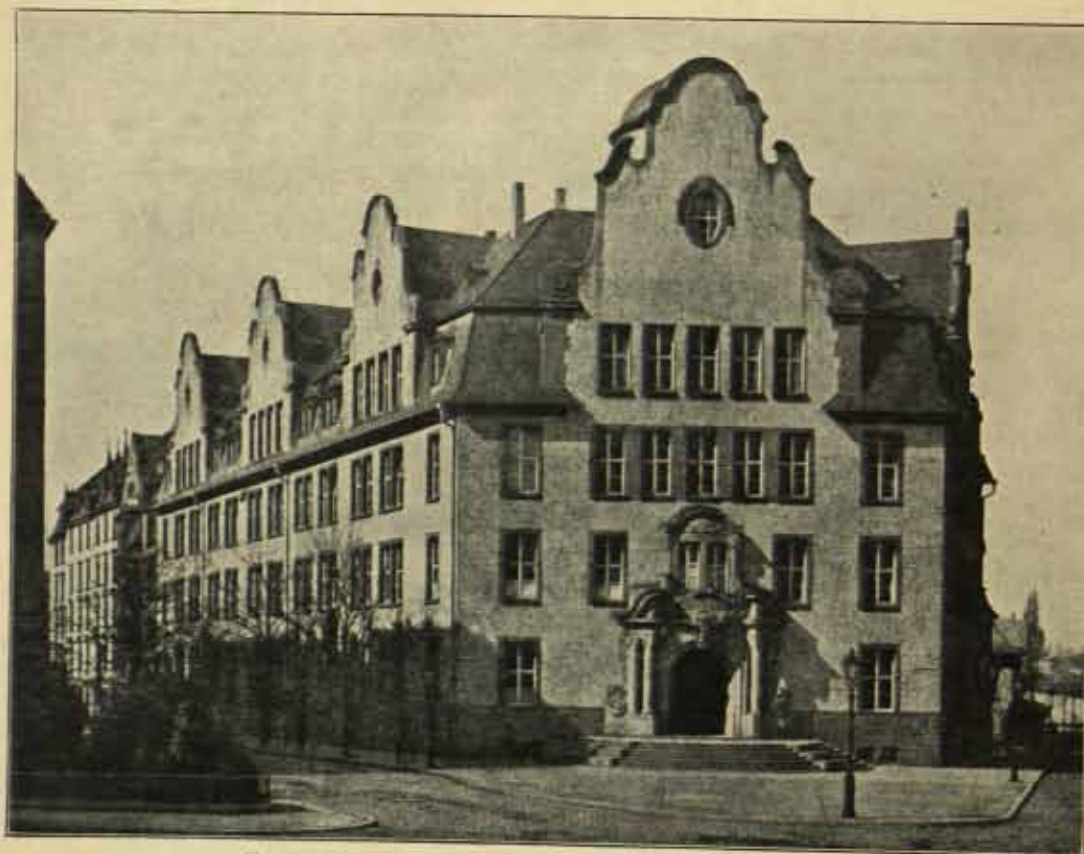


FIG. 5. CENTRAL CONTINUATION SCHOOL, FRANKFORT-ON-MAIN.

erected, but in the third the classes are still scattered, the greater number being concentrated in the magnificent new Trade School in Moltke Allee. When the third district Continuation School is built, probably on a site adjoining the Trade School, the scattered classes will be taught under one roof.

The Central School for the southern district is situated in the Frankensteinerplatz on a prominent corner site overlooking the river. It was built in 1906-8 from the designs of Herr Berg, at a cost of £32,250, including equipment, and there are about 3,500 scholars on the books at the present time. The plan (Fig. 6) shows a clever treatment of a corner site, and the general view (Fig. 5) gives some idea of the architectural features.

The main building consists of four full storeys (including the mansard), as well as a basement and an attic; excepting the house on the north for the Director and the caretaker, which is lower. It is a frequent practice in these schools to have a combined house of this sort, the caretaker using the

basement with a door into the playground or yard, the Director using the upper part. There are no workshops in the school, but with a view to possible future developments the basement has been arranged in order to allow of machinery being installed if desired.

The playground is used jointly by the Continuation School boys and by those of a neighbouring Mittelschule. As in the case of most of the schools described in this Report, the external walls are faced with rough-cast, the dressings are of red sandstone, and the roofs covered with dark red tiles.

The accommodation consists of 18 classrooms (each 28 feet by 21 feet 3 inches), 3 studies for drawing, 2 studies for modelling, 5 small rooms for studies and museums, a large science classroom, a

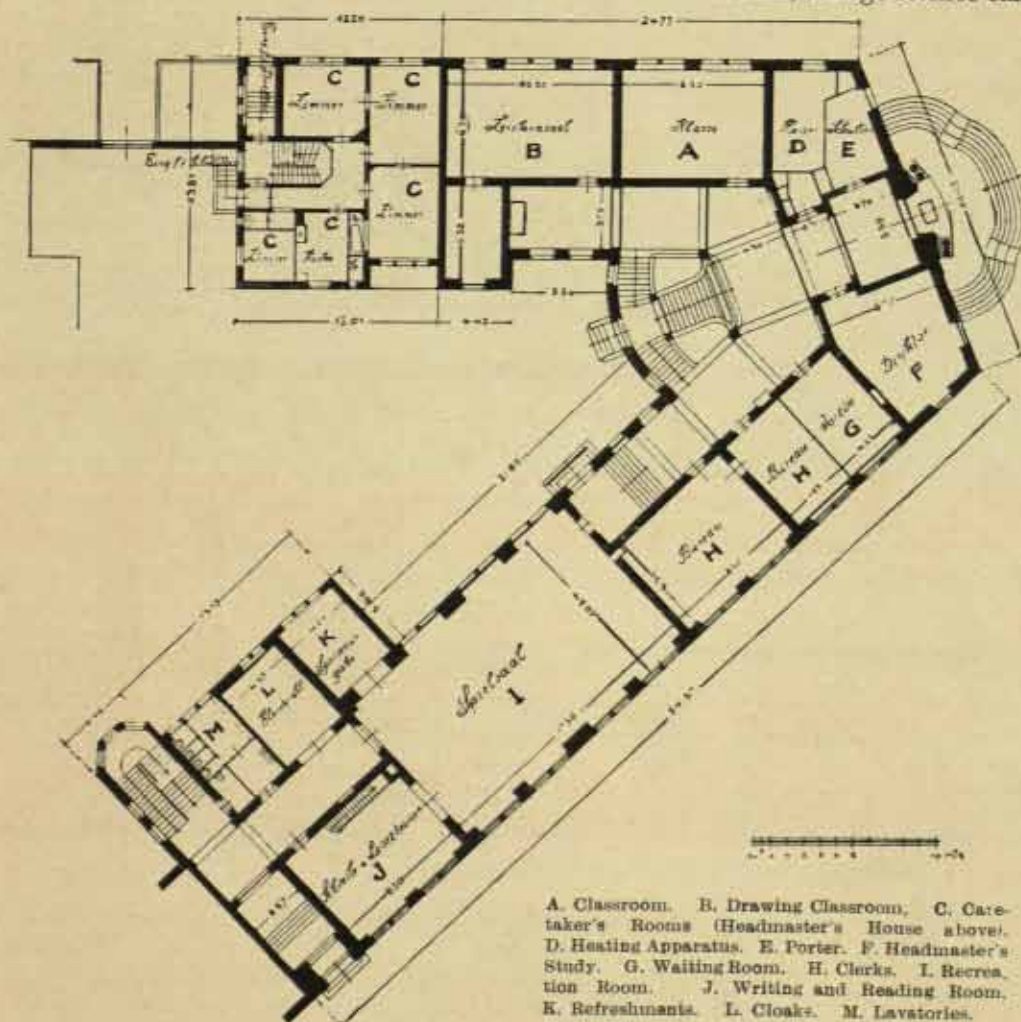


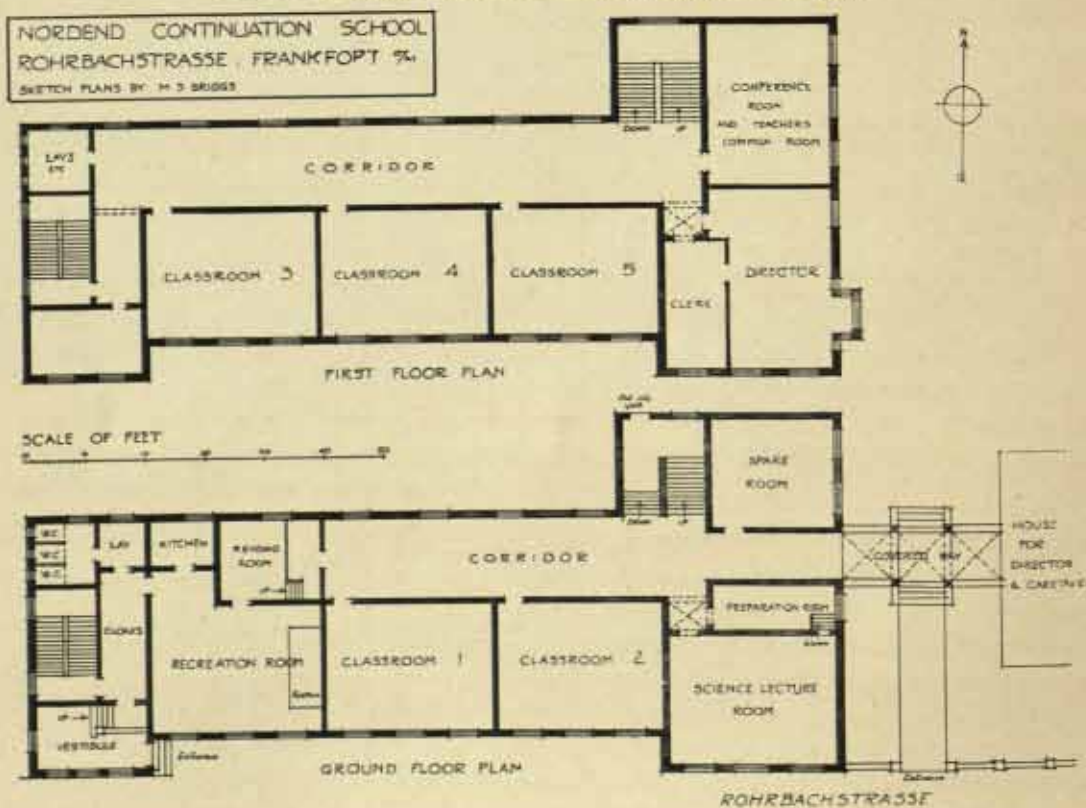
FIG. 6. CENTRAL CONTINUATION SCHOOL, FRANKFURT-ON-MAIN: GROUND FLOOR PLAN.

library and reading room, a teachers' common-room, 2 offices for clerks, one for the Director with writing room attached, and a suite of recreation rooms.

The latter (see Fig. 38) comprise a large room (57 feet by 34 feet) provided with tables for games which can be removed when there is a musical programme or dancing, as is usual on Sunday night. An open archway, closed at need by a curtain, leads to the reading and writing room (28 feet by 21 feet). Both of these rooms occupy two storeys in height. The walls are panelled in oak to a height of about 5 feet. A staircase in the reading room leads up to the scholars' library on the first floor. The recreation room may be used as an assembly hall, and has a separate entrance in the Frankensteinstrasse, with cloakrooms, lavatories, and a small kitchen, as at Bonn.



Fig. 7. NORTHERN CONTINUATION SCHOOL, FRANKFORT-ON-MAIN.



Figs. 8 and 9. NORTHERN CONTINUATION SCHOOL, FRANKFORT-ON-MAIN: GROUND & FIRST FLOOR PLANS.



FIG. 10. CONTINUATION SCHOOL, BRUCHSAL, BADEN.

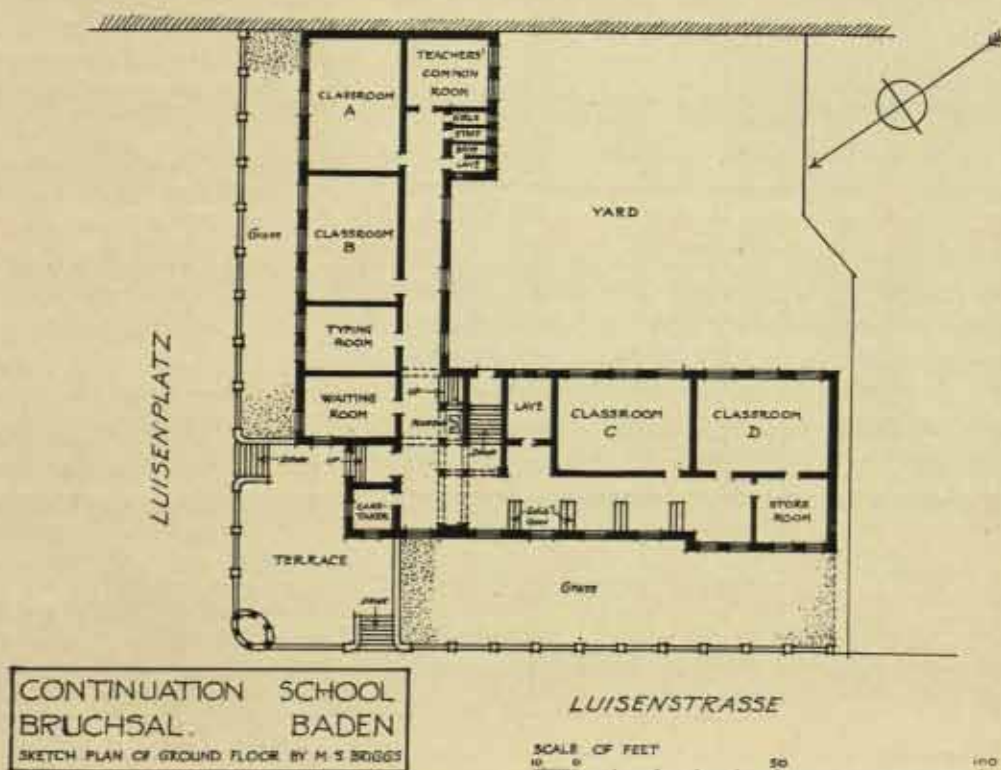


FIG. 11.

Fig. 39 shows the corridors in this school.

The central district school for the Northern district is situated in the Rohrbachstrasse and was built in 1908-10, at a cost of about £25,000, from the designs of Herr Kanold, formerly the City Architect. The school accommodates considerably fewer scholars than the last described and is also less interesting as a building (see Figs. 7, 8, and 9). A feature of the scheme is the detached house for the Director and the caretaker, connected with the main building by a covered way. Here, again, there are no rooms for trade teaching. The accommodation on the two lower floors may be seen from my own sketch plans. On the second floor the arrangement resembles that of the first floor, but on the top floor are two large studios facing north (whereas the classrooms below face south), which can be connected to form an "*aula*," or assembly hall, when desired. On this floor also are rooms for cookery classes, forming an exception to the Frankfort rule, by which girls are chiefly taught in a separate central building.

I also visited the Municipal Trade School in Frankfort, but it is too large and expensive a building to be of much use for purposes of comparison. It is true that a number of Continuation scholars in the western district attend classes there, but the building is intended for a more advanced type of student.

Another Continuation School where all sections of scholars are taught under one roof is to be seen at the little town of Bruchsal in Baden, with a population of 15,500 (see Figs. 10, 11). This building was erected in 1911-12 from the designs of the Municipal Architect, at a cost of about £13,000. It is, however, impossible to establish any ratio between this figure and the cost of Continuation education in the town, as classes are also held for advanced students in the evenings, and in manual work for the eighth-year elementary scholars in the daytime. The idea of thus combining evening classes with a day Continuation School is feasible in a small town where the heavy expense of a dual system would be prohibitive.

The Bruchsal school only contains one workshop for Continuation students, besides three for the Elementary manual classes as above, and one for the personal use of the caretaker. All these are placed in the basement. The ground floor, as shown on the plan, is devoted to the Commercial section, and the two upper floors to the Trade section. The latter has 6 classrooms, 6 small studies or specimen rooms, a science classroom with preparation rooms adjoining, a committee room, and a room for clerks, also used as a writing room for visitors. There are no rooms for recreation and social purposes, no library or gymnasium, and no assembly hall, but there is one feature which has not been described in previous examples and which is (or soon will be) an important feature in every school where there is trade teaching. This is the row of exhibition cases in the wide corridor on the north-west, where are placed collections of specimens illustrating the various trades taught, and frequently connecting these trades with the manufacturing establishments of the town. Further information on this point will be found on a subsequent page. This school differs, then, from the new buildings at Frankfort and Bonn in the absence of recreation rooms and in the provision of exhibition space, and differs from most of the new Trade Continuation Schools to be described shortly in the absence of any complete system of workshops for practical teaching.

The plan is simple, and the exterior, as the elevation shows, very attractive. The building stands at the end of a new *place* near the station, surrounded by trees and by other new public buildings, and a little garden-house, or *gazebo*, is included in the scheme. Internally, the design and decoration are of a high order and everything combines to render this a model for a small Continuation School.

(To be continued.)

REVIEWS.

MEMORIALS.

Memorials and Monuments, Old and New. Two hundred subjects chosen from Seven Centuries. By Laurence Weaver, F.S.A. The "Country Life" Library. 1915. La. 8o. Price 12s. 6d. net. ["Country Life" Office, 20 Tavistock Street, Covent Garden.]

*"A thing of beauty is a joy for ever,
Its loveliness increases . . ."*

In contemplating memorials one ought to be reminded at all times of the enduring thought that Keats put into such wonderful words, for unless a memorial is a thing of beauty, enshrining a fine thought, it defeats its own end and it were better had its message been left unsaid. All through the ages contrivers and makers of monuments have felt this; they have spared nothing to give of their best according to the ideals that were before their eyes. To what an extent outward form changed with changing ideals is common knowledge, but the desire to do honour and to perpetuate a memory was ever there. Till the mid-nineteenth century brought chaos into the arts, beautiful thought found expression in beautiful form; traditions were unbroken.

Those of us who in our travels have stood in admiration before countless memorials bequeathed by the past and have shuddered at the appalling banalities of the average modern production welcome a book like this for many reasons. It brings to mind masterpieces which we have seen at one time or another, but of which we had no record on our shelves; it helps us to follow the sequence in design, and to put into their proper place thousands of examples which every architect has stored in the back of his mind; and it brings hope for the future through the large number of memorials illustrated in its pages which have been set up during the last few years when skilled workers have been given an opportunity.

War sows crops of memories; even victory is bought at a price, and never before at such a terrible price as that exacted by modern destructive machinery. Many will be the sculptured stones and graven slabs set up in our churches, great and small, in our market-places and open spaces, when the longed-for time of peace comes again. It will rest with designers and craftsmen in all manner of materials to rise to the occasion and, as far as in them lies, to see that the tide of spurious imitation is stemmed once and for all. This book should help them to do it, and the more widely it is read and studied the more it should help them to do it, by educating the public mind and by focussing attention upon good models. Although Mr. Weaver gives his

vast subject some historical consideration, his main theme is avowedly to assist the modern designer and to lead those who are contemplating the erection of memorials to look to the artist and craftsman instead of to the so-called "monumental mason" and the trade catalogue.

In spite of the fact that the book scarcely merits a title so comprehensive that it may be reasonably expected to include all kinds of memorials and monuments the world over, whereas it is limited in all



Monument to Cranmer, Jesus College, Cambridge.
Architects, Richardson & Gill. Sculptor, A. Bruce-Joy. 1912.

directions—space not even being found for a Greek stele near one end of the chain or a Sussex cast-iron tomb slab near the other—it nevertheless contains a remarkably representative selection of wall memorials and tablets of all sorts, of small monuments inside buildings and others standing in the open, together with suggestive criticism on the decorative methods

suitably employed, and especially on the right use of lettering. Monuments of sarcophagus form surmounted by effigies, to which class belong some of the most sumptuous works to be found in churches of every land, are stated to be outside the scope of the book, so it is well to accept it for what it contains and not to condemn it for what is omitted. If many volumes were filled with nothing but examples of really fine old memorials of one kind and another, there would still be others worth recording left out.

Vested with dignity but not too austere to crush the human appeal, memorials have been conceived in

in their work and in that of the Neo-Grec school in this country probably lies the safest line of development for modern designers to follow where circumstances do not govern the choice of style. Chapter XII, on "Outdoor Memorials, Military and Civic," will be referred to with profit in these days, but Chapter XIII, which deals with churchyard memorials, is one of the most interesting.

It is not possible here to follow out the many lines of thought prompted by a perusal of this book; it is very readable, full of suggestion and sound advice, while it is at the same time a genuine contribution to the understanding of an art which has too long been sadly misunderstood and neglected in this country. It is well timed, excellently printed and illustrated, and the price is so moderate, considering its bulk, that architects and others may take hope that the day may not be far distant when it will be possible for them to surround themselves with books which are not only companionable but really useful at the same time.

ARTHUR STRATTON [F.], F.S.A.



Monument to Sir John Williams, Temple Church, London.
John Stone, 1888.

every vein but the playful: there seems to be no end to the possible combinations of architectural and sculptured form and of materials of widely differing texture and colour. That modern ones should not be Gothic in feeling, unless clearly necessitated by the surroundings, is a conclusion which the author draws and which few will be disposed to question to-day. It is also brought out that while there is something incongruous in setting a Gothic monument in a Classic building, there is not necessarily anything discordant in the insertion of a Classic monument in a Gothic building. The spirit of the eternal seems to permeate the Classic conception. The French have long excelled in the translation of Greek motives, and

PROTECTION OF ANCIENT BUILDINGS.

The Society for the Protection of Ancient Buildings. Thirty-eighth Annual Report of the Committee, June, 1915.

On opening this Report we find once again the *Principles* of the Society as set forth at its foundation in 1877. This is as it should be, for principles so thoroughly sound in themselves, and so happily expressed, cannot be read too often, and we hope the Society will long continue to reprint them. Indeed we should like to see each member provided yearly with a few copies in leaflet form for judicious distribution among such architects, clergymen and custodians of ancient monuments as stand in need of the wise instruction this essay so lucidly conveys. That the aims of the Society can be rather perversely misunderstood is shown by the Report of a Committee appointed to enquire into the regulation of changes made in ecclesiastical buildings by the Archbishops of Canterbury and York, in consequence of representations made by the deputation which waited upon them in 1913. This Committee seems to think that "the employment of a well-known architect" is an obvious guarantee that work will be carried out in a right spirit, whereas it is notorious that professional men of high reputation have been among the worst offenders. Their "very learning"—to borrow a phrase from the Society's *Principles*—"has been turned into a snare to them," and many of the most misleading historical frauds have been produced by skilled architects. The treatment of a venerable monument cannot safely be left to any one man, however clever he may be, until his suitability has been carefully considered by an accredited body of educated persons, in various walks of life, who appreciate the art of the past and see the vanity and essential dishonesty of trying to reproduce it in a later period. Such a body is this Society, and its recommendations deserve the most respectful con-

sideration. We are therefore sorry to detect in the Report of the Archbishops' Committee a somewhat supercilious tone, indicating a desire on the part of these gentlemen to depreciate ideas which they could not readily understand. This is unfortunate, as they evidently desire to be useful, and make some wholesome recommendations about insistence on faculties and due observation of them when granted. Had this Committee carefully studied the Society's *Principles*, instead of quibbling about the spelling of Mr. Bodley's name, the light might have dawned on them. Their enquiry reveals the astounding fact that, out of a list of forty churches submitted to the Archbishops by the Society as "cases where destructive work had been carried out under a faculty since 1896," *in twenty-one out of the forty cases named no faculty was obtained*. This certainly ought not to be possible, and the Committee rightly recommend that steps should be taken to prevent any such scandal in future. One example of quite inexcusable destruction relates to Walpole St. Andrew. The central mullion of the fifteenth-century or early sixteenth-century east window was entirely removed and the tracery altered in order that stained glass, having a central picture, might be inserted. This indefensible act of violation appears to form one of a number of cases "where faculties were obtained and well-known architects were employed." We see, then, how important it is that faculties should only be granted by properly advised authorities, and that an architect is not necessarily endowed with discreet modesty. In one archdeaconry we know of, a Committee consisting of the Archdeacon, one representative of the local Archaeological Society, and a member of the local Architectural Society, has been appointed to report to the Chancellor of the Diocese on proposals for works at churches. It is quite plain that no work should in any case be done without a faculty, that all faculties should be literally obeyed, and that those who have the responsibility of granting them should receive the best available advice. We feel that the Society for the Protection of Ancient Buildings is thoroughly competent to provide the necessary guidance, and its frank recognition that the practical purposes for which churches exist are of primary importance, and that historical considerations must of necessity be ancillary to these, should secure the confidence of ecclesiastical authorities.

Last September the Society endeavoured—through the American Ambassador—to secure from the German Government an assurance that reasonable respect would be shown to works of art in the war area, but this right-minded plea was unheeded by those who seem to have lost the power to respect anything. How best to deal with old buildings that have been damaged, and to replace those that have been destroyed, will provide a difficult problem when Peace is restored. These matters were discussed at a meeting in February, which was attended by M. Victor Horta, Director of the Royal Academy of Fine Arts at Brussels, whose views are in accord with those of the

Society. Belgium, as we all know, is rich in famous architecture, but few of its ancient buildings retain their full character, as the Belgians have always "restored" their works of art. At the present day M. Horta is almost alone in setting his face against this misguided practice, but as he is educating the architects of the future he is confident that his views will eventually prevail. We hope he will be supported in his efforts to bring his countrymen to a better way of thinking by all who can exercise a little influence of a proper kind. M. Horta also spoke of the difficulties that will arise when the thousands of exiles return to Belgium. Homes will have to be provided for these afflicted people, and M. Horta thinks the best solution will be to build houses of a more or less temporary character. This plan would satisfy immediate needs and give time for considering how best to set up more permanent habitations. M. Horta feels that it is not desirable that all traces of war should be obliterated, and we think he is right. Certain ruined buildings—such as the Cloth Hall at Ypres—may well stand in their tragic dignity as abiding monuments to the inexcusable malignity of a systematically ruthless invader who had no shadow of an excuse to be in Belgium at all. M. Horta accepted an invitation to become an Honorary Member, and expressed to the Society his appreciation of the honour done to him. This discussion and exchange of courtesies should make for good.

The Report points out that an increasing number of interesting old houses of minor importance have been destroyed during recent years, and that consequently many towns and villages have lost their distinctive character. This is especially true in the case of old cottages and farmhouses whose bedroom accommodation and sanitary arrangements are inadequate for present needs. The chief reason, we believe, is that many owners cannot afford to make the necessary adjustments in a manner worthy of the buildings themselves, and—much as we may regret the disappearance of the houses—it is not easy to suggest a remedy in the present state of public opinion.

On an early page of the Society's Report are two photographs: one of some quaint old houses at Selby in Yorkshire, the other of a new Post Office which has usurped their site. Comparison of these makes one despair, for the new erection is just about as interesting as a roll-top desk. It may be that the old houses were beyond repair, but there are plenty of architects who could have designed something useful and substantial, with feeling and refinement about it, though apparently the Government does not know of their existence. We turn with relief to the next item, which records the careful repair of an old cottage at Otford in Kent by its new owner, who is a member of the Society. Then comes the announcement that a representative of the Society is to sit on the Council of the Garden Cities and Town Planning Association. His presence will doubtless prevent a certain amount of destruction, but we have small hope from Garden Cities, which

are generally very flimsy attempts to be æsthetic "on the cheap."

In the *Notes on Cases*, which form the body of the Report, are two most interesting photographs of the interior and exterior of Pawlett Church, Somerset. This exceptional building retains features illustrating the styles of various periods up to the end of the eighteenth century. Certain repairs are to be done to the roof of this valuable fabric, but as those having rights in the church have been in consultation with the Society's Committee, we are sure that safe methods will be employed. A photograph of Radcot Bridge on the Thames shows how a mediæval structure has been judiciously repaired by an architect member. A new lease of useful life has thus been granted to this charming survival. A similar service has been done to a late mediæval house at Chiddingfold, Surrey. In the course of this work many interesting features were brought to light, and we hope the purchaser and his family will long enjoy the home so happily preserved. These proofs that appreciation of old things is by no means extinct are very gratifying. A strange contrast to this wise conservatism distinguishes Charlton Kings, in Gloucestershire, which was so fortunate as to possess an old Churchyard Cross of combined dates in good order. This has been cut in two, the post-Reformation sundial having been placed on a new base and the mediæval shaft surmounted by a new finial. So, instead of one genuine historical relic, the parishioners now have two concoctions which are neither one thing nor the other. Two more photographs show how the porch of Tickhill Church, Yorkshire, has been thoroughly degraded by drastic restoration, when all that was needed was a little prophylactic attention. It is high time the diocese concerned revised its faculty regulations.

We exhort all who love our ancient landmarks and the "hallowed quiet of the past" to become subscribing members of the Society for the Protection of Ancient Buildings, and so strengthen its saving hand.

S. PERKINS PICK [F.].

CONSERVATION OF INDIAN BUILDINGS.

Annual Progress Report of the Superintendent, Muhammadan and British Monuments, Northern Circle. Pp. 50. Allahabad. [Government Press, United Provinces.]

This volume has the arid appearance inseparable from official literature, and consists for the most part of schedules, ruled columns, and figures. But it has within its womb human as well as archaeological interest. One hears, with sorrow, of the recent death of "Maulvi Muhammad Shuaib, who had been munshi in this office since August 1905," for "He knew his work, and had made many friends"; and one learns with mixed feelings that "Her Highness the Begam of Bhopal has generously offered to provide the sum of Rs. 10,000 for repairs to the tomb of Zebu-n-nisa at Lahore, but the Local Government has been requested to inform Her Highness that there

is considerable doubt as to whether this princess was ever buried at Lahore at all."

The Department (of which this volume is a report) has spent Rs. 2,19,865 . 0 . 4 during the year ending March 1914. This has been devoted mainly to what one is pleased to see described as the "conservation" (not restoration) of worthy structures; there has also been some judicious rebuilding, some planting and "laying-out," and much excavation and clearing away of rubbish. Photographs have been taken, measured drawings, of a practical type, made and listed, and a collection of antiquities is being formed at Delhi. Some description of these treasures is given, and I quote the inscription from a presentation sword, 1214, as a suggestion to grateful municipalities: "This chief sword had the honour of (bestowal) from his Majesty Shah Abbās, may God perpetuate his Country and Kingdom, on the slave: 'Ali Mardān Khān.' On the face of the blade: 'Pious ejaculations.'"

A phrase in the report, "6 seats of the Mughal pattern have been provided," is unpleasantly suggestive, and one does not like the expression "eradication of vegetation from buildings," but the seats need not necessarily have been chosen from a catalogue after the manner of town councils here, and the "vegetation" is probably a ruthless undergrowth, and not the kindly lichen of our northern lands.

There is little sign of conscientious "scraping" in the photographs, and questions of pointing are dealt with as of real interest. One reads that in the minar at Alan-d-din "the new rubble is set back from the old to distinguish old from new," also in the repairs of "Pietra dura" work no chipping of the ground-work is permitted, immense care is taken in preparing and fitting the missing inlay, and no less than nine separate ingredients are used in making the cement. Great insistence is laid on "the surroundings of buildings being made pleasant." "Chains" of buildings easily got at are thought out for the convenience of travellers, and means are taken that buildings off the beaten track are as much cared for as (to use the phrase of the report) "their more accessible brethren."

The photographs at the end of the report are naturally one of its most interesting features, and the interest is immensely increased by their being arranged in pairs—before and after conservation. Plates 3-7 are of the gardens of the Taj Mahal at Agra. Much "vegetation" in the shape of crowding and obscuring trees has been removed, and new trees planted to compose with the building, formality is properly maintained, and there is much paving in broad, straight paths (unfortunately of an unpleasingly jointless and cement-like appearance).

Plate 14 shows part of the Roman Catholic chapel at Lahore; external plaster has been removed (as from Staple Inn) exposing certain "jali" work in a corbelled oriel. This work, a stone, lace-like fret in place of glass, is of interest, but one questions the wisdom of attempting to "replace what is missing."

Plates 34-39 indicate very extensive work at Delhi, Purana, Tila (Indrapat). The great arched surrounding walls, before almost amorphous, have been cleared, unobtrusively restored, and made more interesting as well as permanent; but why should all the picturesque assembly of small buildings in the enclosure have been cleared away by the Civil Authorities, even if "the rank which Indrapat takes among the monuments of Delhi demanded that its interior should not be a matter of reproach"? Some of these erections had a distinctly architectural character (notably a little Italian-like loggia), and detracted no more from the dignity of their older brethren than the clustering Renaissance houses do from the cathedrals of backward Continental towns. Still, generally speaking, the work of the Department seems done with sympathy—much is revealed of fair arch and carved plinth once hidden in rubbish, permanence is given to things worth keeping, and there is no restoration after the "thorough" manner of Viollet-le-Duc.

The author of the report makes no offensive claim to official omniscience, and on page 27 he frankly states that "It is not known why the construction of a cookhouse, servants' quarters, and stable for the Superintendent, Taj and government gardens at Agra, at a cost of Rs. 2,545, has been charged to the archaeological funds."

HERBERT G. IBBERSON [F.].

UNITARIAN CHURCHES.

Nonconformist Church Architecture. An Essay by Ronald P. Jones, M.A. Oron., Architect. With 12 Illustrations. 80. Lond. 1914. Price 1s. 6d. [The Lindsey Press, 5 Essex Street, Strand, W.C.]

The title of this little book, "Nonconformist Church Architecture," is perhaps somewhat more comprehensive than the contents of the work justify, as much of the text and all the illustrations are devoted to the consideration of those buildings erected by the Unitarian branch of Nonconformity. The author describes in an interesting and lucid manner some of the Unitarian churches built in the eighteenth and nineteenth centuries, and his remarks and suggestions upon the design of the present-day church are very practical, and might be studied with advantage by those who have to do with this class of work.

The book is clearly printed and the illustrations well chosen, those of the earlier chapels at Stannington and Ipswich being particularly good. Both these buildings, externally and internally, fully express the purpose of their erection, which the nineteenth-century work illustrated does not so clearly show.

Probably to a printer's error is due the statement on page 28 "That an eruption of Doric and Ionic portions took place indiscriminately on churches, assembly rooms, etc." The mistake is, however, a fairly apt description—the Doric and Ionic porticoes are too often only isolated "portions" of the buildings of that time.

W. G. HORSEMAN, *Licentiate*.



9 CONDUIT STREET, LONDON, W., 28th August 1915.

CHRONICLE.

R.I.B.A. Record of Honour: Fifteenth List.

Killed in Action.

ENGLISH, ERIC, 2nd Lieut., 13th West Yorkshire Regiment, attached 18th Manchester Regiment. Killed in action at the Dardanelles on the 7th August. Aged twenty-seven.

Lieut. English was the son of Mr. C. W. English, Licentiate R.I.B.A. He was a Student at the Ecole des Beaux-Arts and pupil of Monsieur J. L. Pascal.

Wounded and Mentioned in Dispatches.

HILLYER, WILLIAM HAROLD [*Student*], Lieut., R.E., attached 171st Mining Company. Wounded at Festubert, 12th May. Mentioned for gallant and distinguished service in the field in Sir John French's dispatch of 31st May.

Wounded.

GRIFFITH, GRONWY R. [*Licentiate*], Lieut., Royal Welsh Fusiliers. Wounded on 25th January, and still on sick leave.

HONAN, MATTHEW [*A.*], Captain, 10th Bn. South Lancashire Regiment. Wounded at the Dardanelles.

On Service.

The following is the Fifteenth List of Members, Licentiates and Students enlisted in the Army or Navy for the period of the War, the total to date being 44 Fellows, 325 Associates, 161 Licentiates, 209 Students, 2 Hon. Associates:

ASSOCIATES.

Birds, S. B.: Lieut., 72nd Canadian Seaforth Highlanders.
Brewerton, F. A.: 2nd Lieut., 3/1st East Lancs. R.E.
Gaunt, O.: Lieut., 41st Bde. A.C., R.F.A.
Lodes, L. A.: Royal Engineers.
Phipp, R. A. Hyatt: 10th Bn. King's Own R.L.
Sharp, G. L. T.: 47th Bn. Canadian Force.
Smith, H. N.: Lieut., R.E.
Stone, H. Walcott: 2nd Lieut., Wessex Div., R.E.
Wiggell, Norman: 3rd C.M.R.'s (Canadian Force).
Wratten, E. L.: 2/1 (C. of L.) Field Ambulance R.A.M.C.

LICENTIATES.

Hall, J. Lockwood: Lieut., South African Engineering Corps.
Jane, W.: Captain, R.E.
Lister, T. G.: 1st Bn. Monmouthshire Regt.
Lovegrove, Gilbert H.: H.A.C.
Orphoot, Burnett N. H.: 2nd Lieut., Royal Engineers.
Waite, R. A.: Royal Engineers.
Webster, David: Lieut., 53rd Bn. Canadian Forces.

STUDENTS.

Brown, T. L. : 2nd Lieut., 15th Bn. Northumberland Fusiliers.
 Hillyer, W. H. : Lieut., R.E.
 Johnston, W. C. : 4th Bn., Border Regt.
 Lister, H. A. : R.A.M.C.

Commissions in the Royal Engineers.

An opportunity has arisen for architects (under 40 years of age) to obtain commissions in the Fortress Royal Engineers. Enquiries should be addressed to C. Stanley Peach, Esq., Sub-Commandant, 4th Bn. (Architects') Central London Regt. Volunteers, 18 Tufton Street, Westminster, S.W.

Architects' War Memorial.

In response to the President's request at the Annual Meeting (p. 337) a large number of names have been sent in and have been entered on the Record of Architects on War Service. The numbers now amount to over 1,600, and include architects in practice, their assistants and pupils, and teachers and students of the architectural schools. Definite proposals are before the Council for the perpetuation of these names by inscribing them in a permanent form on panels to be fixed on the walls of the staircase leading to the Library at No. 9 Conduit Street.

The War Office and Architects' Services.

Mr. C. Stanley Peach [F.], Hon. Secretary of the Architects' War Committee, writes :—

My attention has been called to a reply given by Mr. Tennant, Under-Secretary of State for War, to a question concerning the use which the War Office has made of architects' services.

Mr. Tennant is reported to have said that "the offer of service by the Royal Institute of British Architects to assist in any work carried out by the War Department was not received until May 1915, when the greater part of the work of erecting wooden huts for the troops had been finished, hence comparatively little advantage could be gained by the War Department availing itself of the offer."

As this statement is incorrect, and I find has already given rise to considerable misunderstanding, I beg to make the following statement of the facts :—

A complete offer of the services of all members of the Royal Institute of British Architects and of other members of the architectural profession, was made to His Majesty's Government on September 11th, 1914, in a letter from the Architects' War Committee addressed to the Right Hon. J. A. Pease, P.C., M.P., the Minister authorised to deal with such offers. It was acknowledged by Mr. Pease on September 14, 1914, and the War Committee was informed that the letter was being forwarded to other Government Departments and that if an opportunity of utilising the help offered arose, a further communication would be sent.

On September 23rd a letter was received from the War Office, F.W.4, dated September 23rd, 1914, in which it is stated that the writer is commanded by the Army Council to acknowledge the receipt of the letter of the 11th containing the offer of service of members of the Royal Institute of British Architects and other gentlemen of the architectural profession, and stating that the Army Council much appreciates the patriotism which has prompted the offer which has been noted for future consideration.

From these letters it is manifest that the offer was in the hands of the Department which Mr. Tennant represents in September 1914, at a time when the work of the huts had hardly been commenced, and not in May 1915, when the greater part of the work had been completed as stated by Mr. Tennant.

Building and Economy.

The following letter from the President appeared in *The Times* of the 19th inst. :

SIR,—Will you allow me to draw attention to the recommendations of the Parliamentary War Savings Committee that "No one should build a house for himself at this time," and that "Decorations and enlargements should be cut down as much as possible."

At the first glance this advice will seem admirable, especially to those in no way connected with building work; but I venture to think that, if carried too far, it may have disastrous and perhaps unforeseen effects. Economy is impressed on all classes of the community in order that they may by their savings help to pay for the war. A strong point in our financial position is that even during war time our industries are kept going so far as possible, and thus everyone is able, more or less, to pay his way.

To stop all but absolutely necessary building would no doubt keep money in the pockets of those able perhaps to afford a modest and prudent expenditure in house building, decorating, and furnishing, but it would entirely deprive of all means of livelihood a very large number of people beyond military age and with no aptitude for munition making or other definite war work, even if it could be found for them. These men must inevitably become a burden on the community, and consequently what is saved in one direction is lost in another. Almost everyone connected, directly or indirectly, with building work already finds his income greatly reduced, indeed in some cases the vanishing point is almost in sight, and if work of this nature ceases entirely complete ruin is inevitable. It may be that this suggested further restriction of expenditure is absolutely necessary, and if so, there is no doubt that the position will be faced with fortitude and resignation.

All I ask is that before the suggestion, which will really have the force of a command, is made officially, we may have an assurance that the Committee have had the benefit of the experience of those conversant with the matter in all its complicated ramifications, and that the whole matter has been most carefully considered.—Yours faithfully,

ERNEST NEWTON, President R.I.B.A.

Civic Survey of Greater London : A War Relief Measure.

It will be remembered that at the outbreak of the War the Royal Institute of British Architects called a meeting of architects representative of the whole profession to discuss the situation, and that this meeting decided to form the Architects' War Committee, with the President of the Institute, Mr. Ernest Newton, A.R.A., as Chairman. The question of unemployment caused by the War was referred to an Employment Committee, which appointed a sub-committee to suggest some scheme of employment the outcome of which should be of permanent value to the community. Their deliberations resulted in a comprehensive and far-reaching scheme for the promotion of Civic Surveys in all the more densely populated districts of the country. A clear exposition of the aims and methods of a Civic Development Survey as contemplated by the sub-committee will be found in a Paper by the Director-General, Mr. H. V. Lanchester, read at the Institute last December and published in this JOURNAL on 9th January, p. 107. The

scheme having been approved by the War Committee and other interested bodies, a memorial was addressed to the Professional Classes Sub-Committee of the Government Committee for the Prevention and Relief of Distress, appealing for a grant to enable a scheme of Civic Surveys to be set on foot, the responsibility for the work to be in the hands of a committee made up of representatives of the Royal Institute of British Architects, Architects' War Committee, Architects' Benevolent Society, Surveyors' Institution, Professional Classes War Relief Council, National Housing and Town Planning Council, Garden Cities & Town Planning Association, Town Planning Institute, London Society, and other bodies whose services may be of value.

The appeal had a favourable response; the Government has sanctioned Civic Surveys in three districts—viz., Greater London, South Lancashire, and South Yorks, and has made a preliminary grant of £1,000 for the work. The disbursement of the funds is in the hands of the Architects' Benevolent Society, acting with other Professional Relief Societies.

The Royal Institute had already made itself responsible for the expenses of the War Committee, and is now providing accommodation for the work of the Civic Survey of Greater London. On the 19th July actual work was started in the old Council room adjoining the Institute Reading Room, and arrangements have since been made for the accommodation of workers in one of the spacious galleries on the ground floor of the Institute premises. On the 3rd August the work was transferred to this gallery, and at the first meeting of the new workers a short description of the aims and scope of the Survey was given by the Hon. Director for Greater London, Mr. A. R. Jemmett.

The scheme of the Civic Survey of Greater London is devised for the purpose of collecting and recording (as far as possible in diagrammatic or graphic form) and comprehensively arranging statistics and facts of Greater London as it exists to-day, and so providing in a manner easily followed and understood all the information interesting and useful to any person concerned with the control, development, or understanding of all matters pertaining to Greater London. It is a fact that a vast amount of valuable information accumulated by experts lies buried away in blue-books and archives quite out of reach of the ordinary citizen. The results of labour quietly and conscientiously devoted to research and codification ought not to be left to crumble and decay in obscurity, particularly as human energy is awakening to the importance of future development of town and country, upon which subject these records have such an important bearing.

The magnitude and importance of the work of the Civic Survey is so obvious that it has by its very usefulness attracted many architects of established reputation. Public bodies and the public generally may some day be grateful for the war which has remotely

led to the gathering together for this work of men specially trained, whom in times of peace it would have been impossible to commandeer for such labour.

The work to be done in collecting and arranging includes correcting and bringing up to date all that has so far been done; and it is hoped to add an additional charm to the work, when completed, by giving it an aesthetic quality worthy of the profession of architecture. Since the work started much information has been collected by visiting heads of departments and local councils, and by enlisting the sympathy of officials, which has always been freely bestowed, it being quickly recognised that the Civic Survey scheme does not trench on the preserves of any existing society, or disturb any vested interests, but seeks only to deal with things as they are, not as they were or will be. The fact that many of the workers are personally acquainted with officials and experts enables much information to be collected without friction and with scarcely any loss of time and energy on formality and routine. The immense variety of the work makes it easy for the directors to discriminate between the workers and to see that each man is given the kind of work to which he is best inclined and fitted.

The ready help and courtesy afforded by the officials of the various bodies associated in the work has stimulated happy co-operation and good feeling among all those engaged in it. All who take the pains to understand the scheme must recognise that, apart from its value as a basis for town planning, it is a labour of far-reaching utility.

Reinforced Concrete Construction: L.C.C. Regulations.

The Building Acts Committee of the London County Council gave in a Report dated 28th June the following account of the proceedings leading up to the application to the Local Government Board for allowance of the Regulations prepared by the Council respecting the use of reinforced concrete in buildings:

On 21st November, 1911, the Council, under the authority conferred on it by section 23 of the London County Council (General Powers) Act, 1909, made Regulations with respect to the construction of buildings wholly or partly of reinforced concrete. The Regulations were prepared after consultation with the Institution of Civil Engineers, the Royal Institute of British Architects, the Surveyors' Institution, the Concrete Institute, and other associations and committees interested in the matter. The Regulations having been made by the Council were submitted to the Local Government Board for allowance. After prolonged negotiations with the Board a revised draft of the Regulations was prepared, and the Council on 24th June, 1913, made Regulations in accordance with this draft. The amended Regulations were submitted to the Board for allowance, and in accordance with the provisions of the Act the four institutions before mentioned were informed of the Council's intention to apply for the allowance of the Board. Further negotiations have taken place with the Board and the institutions, and numerous suggestions for modifications in the Regulations have been received. We think that a large number of these suggestions might be adopted, and we have accordingly prepared and now submit a revised set of Regulations. The Local Government Board has stated that in its opinion the Regulations as now amended might properly be allowed, and the Royal Institute of British Architects has placed on record its opinion of the great value

of the Regulations to architects not only in London but throughout the whole of the Empire.

The Regulations as now amended are less onerous than those made on 24th June, 1913, and more in line with the Regulations made on 21st November, 1911. If as the result of experience gained during the next few years it should be found that alterations are desirable there should be no difficulty in modifying the Regulations.

In addition to the notice required by section 23 (4) of the Act to be given to the above-mentioned institutions, the Local Government Board desires that, as in the case of by-laws to which section 184 of the Public Health Act, 1875, applies, notice should be advertised in one or more London newspapers, preferably daily papers, and in one of the technical papers circulating amongst persons professionally or commercially interested or affected. The Board also desires that a copy of the Regulations may be deposited for inspection at the offices of the Council for a clear calendar month after the publication of the advertisements and before the submission of the application to the Board for the allowance of the Regulations.

Payment for Preparation of Designs where Building Scheme has been abandoned.

At the instance of the R.I.B.A. Practice Standing Committee the attention of the Council of the Royal Institute of the Architects of Ireland was called to the unsatisfactory conditions attaching to the appointment of an architect under the Kingstown Urban District Council which had been advertised in the public press. The appointment was in connection with a housing scheme estimated to provide 274 habitations, and the architect's duties were to include preparation of all plans and specifications, supervision of the work of erection, attendance at all Local Government Board inquiries and meetings of the Council and Committees, and preparation of documents for the Local Government Board inquiry and for carrying out the scheme, "at a fee, to cover all the work, of 2½ per cent. on the accepted contract." It was stipulated that "in the event of the scheme being altered or not sanctioned by the Local Government Board, or abandoned altogether or in part, then no fees whatever shall be payable to the architect save for that part of the scheme gone on with by the Council and completed."

A deputation from the Institute of Ireland waited upon the Housing Committee and urged such modification of the conditions as would secure to the architect a fee of 5 per cent. on the typical house of each group. This, they explained, would preserve the 5 per cent. principle, and would mean only a very trifling increase in fees. As regards the provision that no fees be paid on abandoned work, its manifest injustice was pointed out, and the deputation asked for an alteration of the clause so as to ensure payment of a reasonable fee in case of abandonment of a scheme for which designs had been prepared.

The deputation hoped that their representations had been favourably received, but have been disappointed to find in the Revised Conditions since issued that while 5 per cent. on each typical house has been agreed to, the commission on repetition work has been reduced to 2 per cent. Further, as regards abandoned work, the only concession granted is that the Urban Council "may consider a reasonable claim for money expended by the architect."

In view of the unsatisfactory nature of the Revised Conditions, the Council of the Institute of Ireland have passed a Resolution recommending members not to apply for the appointment, or, in the event of their having done so, to withdraw their application. The terms of the Resolution have been communicated to the Town Clerk, Kingstown, and to every member of the Institute of Ireland.

It is hoped that the stand taken by the profession in Ireland against these unfair conditions will have the steadfast support of their brethren in other parts of the kingdom, and that members of the R.I.B.A. and its Allied Societies will refrain from applying for the position until the conditions are rectified.

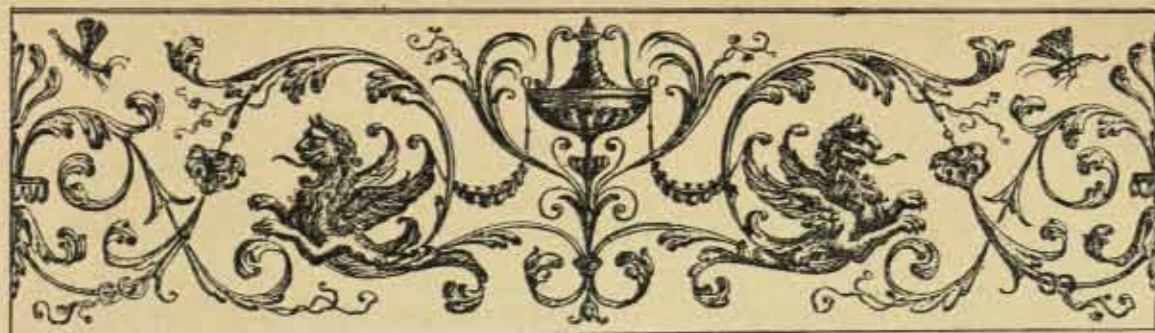
The Artists' War Relief Exhibition at the R.I.B.A.

Several more drawings and paintings have been added to the Artists' War Relief Exhibition since Mr. Walter Millard's notice in the last issue of the JOURNAL. The interest of the collection is greatly enhanced by the new exhibits, among them being works by Messrs. Philip H. Calderon, Gordon Hake, Penley, Van Bloemen, Leslie Wilkinson, W. Hilton Nash, R. Wilson, Matthew Dawson, Edgar Wood, W. J. Palmer Jones, the Hon. Alice Maud and Mrs. Walter Millard. For the information of any who have missed previous notices it may be repeated that the Exhibition is for the benefit of painters and architects whose ordinary work has come to a standstill owing to the War, and that the pictures come under two categories—(1) Works presented to be sold for the benefit of the Relief Funds, and (2) works sent to be sold for the benefit of their authors. Many of them are of very high merit, but all are moderate in price, some being offered at a figure that would seem to be much below their real value. Among the exhibits are examples of Sir Ernest George's etchings about which Ruskin wrote so enthusiastically in a long distant past. So far, sales have been gratifyingly numerous.

Night Duty at St. Paul's: Architect Volunteers Wanted. *To the Editor, JOURNAL R.I.B.A.,—*

SIR,—It may perhaps not be known that at the request of the Dean and Chapter of St. Paul's and of Mr. Mervyn Macartney, the Surveyor to the Fabric, certain architects have undertaken to watch the Cathedral, with the object of extinguishing fires that might be caused by aerial bombs. During the winter months it will be necessary to obtain more help, and we should be glad if any members of the R.I.B.A. who will volunteer for one whole or two half-nights a week, will communicate with Mr. J. E. Drower, 28 Victoria Street, Westminster, S.W. It is hoped that the watch of this national monument may be undertaken by members of the architectural profession. It will be necessary to secure another 120 volunteers.

(Signed) **CECIL C. BREWER.** **PERCY E. NEWTON.**
W. CURTIS GREEN. **WALTER TAPPER.**
J. E. DROWER. **LAWRENCE A. TURNER.**
F. C. EDEN.



The Godwin Bursary Report, 1914.

CONTINUATION SCHOOL BUILDINGS IN GERMANY AND AUSTRIA.

By MARTIN S. BRIGGS [A.], Godwin Bursar.

(Continued from page 476.)

IV.

THE PLANNING OF TRADE CONTINUATION SCHOOL BUILDINGS.

The four buildings considered in the last chapter are all used for Continuation School purposes in general. But, as has been said, in the majority of German towns the Commercial section is separated from the Trade section, and often the General section also forms a separate division; while the education of girls has not yet become important enough to justify any special expenditure on buildings. Of these sections the Trade Schools for boys are unquestionably the most important, for they require more special accommodation and equipment than any of the others. A Trade Continuation School, it will be remembered, is intended solely or primarily for boys compulsorily educated by the municipality between the ages of 14 and 17 or 14 and 18. It may thus be differentiated from a Technical School as we know it, because the latter is essentially voluntary in character, has no age limit, and does not usually include in its curriculum such subjects as writing, commercial arithmetic, or "*bürgerkunde*." A Technical School is usually occupied in the daytime by boys whose parents can afford to pay considerable fees, or by the holders of scholarships, and in the evening by apprentices and the ambitious or diligent of all ages. A Continuation School, on the other hand, is a day school for boys of all ranks who attend for only two half-days per week, and must be differently organised in many ways. Frequently evening classes in trade subjects are held in a Trade Continuation School, and less frequently day classes for advanced students also, but in all large cities the tendency is to provide entirely separate buildings for the Continuation scholars. In the ten examples next to be described it will be possible to trace the various stages in the evolution of the Trade Continuation School, culminating in the magnificent building in Vienna.

The Trade Continuation School in the street known as Am Krökentor, at Magdeburg, represents the simplest form of all, for here the trade teaching is entirely theoretical and no workshops are provided for practical work. The building (Fig. 12) is neither beautiful nor modern nor particularly efficient in plan. It was erected so long ago as 1902-4 by the City Architect, and forms part of a huge block including the Building and Engineering Schools, which is said to have cost in all £120,000. It is, however, entirely distinct and has no internal communication with those institutions. All the 5,000 pupils now on the books are Compulsory Continuation scholars. In addition to the basement, which is occupied by a caretaker's rooms, heating and ventilating plant, cycle-room, etc., there are four floors in full use, and the very unsuitable attic has more recently been requisitioned.

Here are found the classes for painters, confectioners, and tailors, who are taught a certain amount of practical work under most undesirable conditions with the minimum of light and ventilation. The four principal floors contain 18 large and 7 small classrooms, a science room, an assembly hall or music room, and the administrative rooms shown on the plan. There are no recreation rooms, library, reading room, gymnasium or exhibition facilities, nor is there a house for the Director on the premises. Cloaks are hung in the classrooms and gas is the only illuminant. It will thus be seen that so important a city as Magdeburg, with a population of 292,000, is behind the times in the matter of a Continuation School building, although, of course, many large German towns are in worse plight. The Commercial Continuation School in this city has already been mentioned.

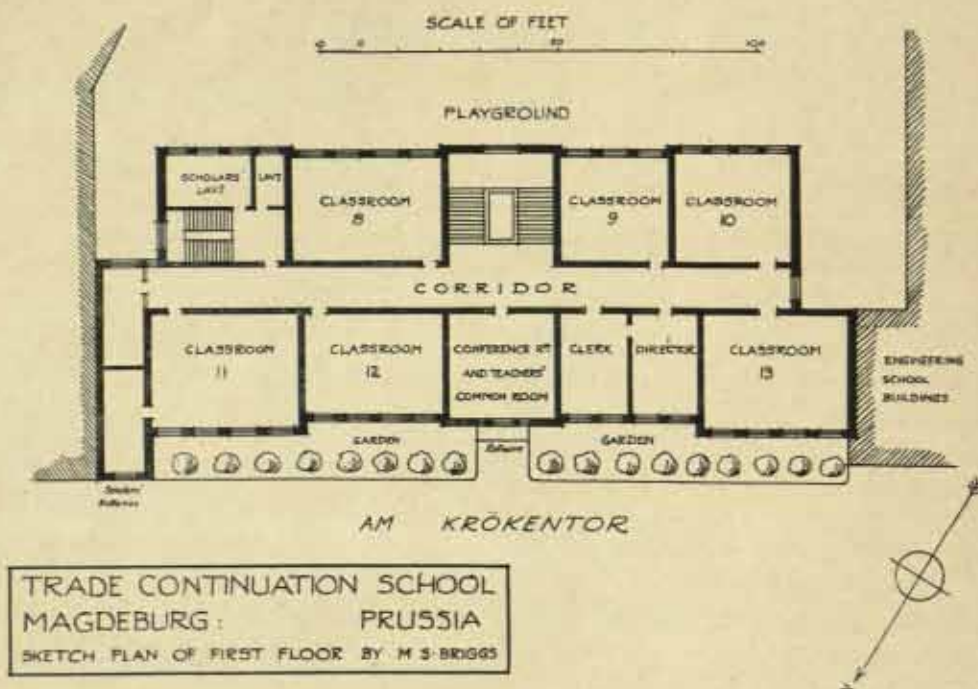


FIG. 12.

My next example, the Trade Continuation School at Strassburg, is a step towards the fully-equipped workshop school (see Figs. 13, 14). It was built in 1909-10 from the designs of the City Architect, Herr Beblo, and cost about £10,500, including the necessary equipment and a certain amount of machinery for the printers' workshop. Here are taught about 1,000 of the total number of 3,000 Continuation scholars in the city, which has a population of over 180,000. The building trades are grouped in a wing of an old Elementary School, the general classes are scattered about the city in various Elementary Schools, and the school for Commercial scholars has been mentioned on a previous page. At this Trade School in the Baldungstrasse, fairly centrally situated, are taught all trades except those connected with building.

The building appeared to me to be the most economically constructed and designed of any that I visited, and as such has a special claim on our attention. This economy is partly explained by the fact that only one trade—the printing industry—has been provided with a workshop, which is marked D on the principal floor plan (Fig. 14). Besides the basement, there are three floors fully utilised for teaching and administrative purposes, and the attic floor is partially occupied. The corridors on each floor are continued into the adjoining buildings of the Strassburg *Handwerkskammer*, which forms one architectural whole with the Trade Continuation School (Fig. 18). The two

rooms for confectioners and waiters are nominally workshops, but the equipment is very simple, the latter having merely a large dining table for demonstrations. There are also 12 classrooms, a studio for drawing, a science classroom, and rooms for the Director and teachers. In the basement are a flat for the caretaker, a workshop for manual training in general, and another workshop for repairs. The exterior is very simply treated with rough-cast and stone dressings, and the internal decorations are severely plain in character.

It is generally considered that the working of the Trade Continuation School may be seen at its best in the great city of Munich, with a population of over 630,000. This is undoubtedly because Dr. Kerschensteiner, the Schulrat of the city, has been the pioneer of the movement, and has thereby attained a more than European reputation. From all parts of the world there is a constant stream of educationists to Munich to study his methods. Munich has led the way in the matter of definite vocational teaching and has naturally played a most important part in the development of the workshop-school. The system in vogue does not, however, favour one great central school for all trades, but rather a division of the city into districts, as at Frankfort. The more common trades (such as



FIG. 13. TRADE CONTINUATION SCHOOL, STRASSBURG.

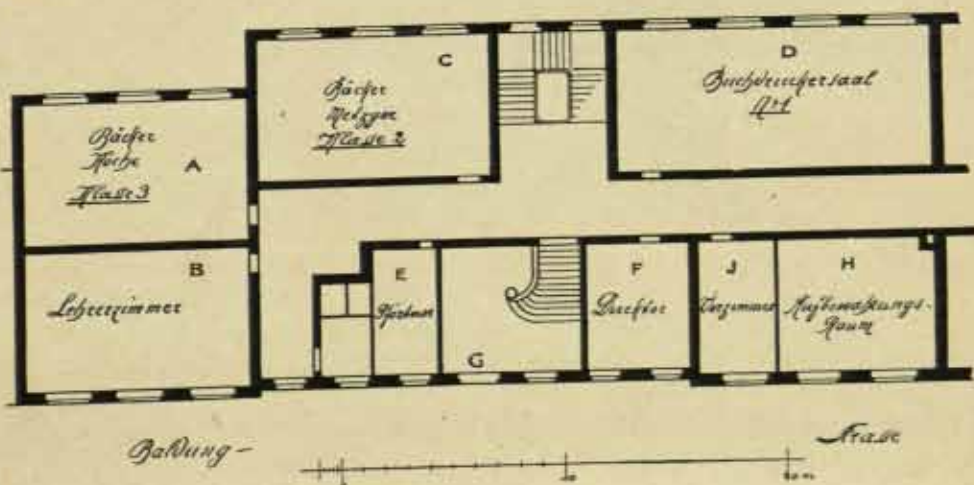


FIG. 14. TRADE CONTINUATION SCHOOL, STRASSBURG: GROUND FLOOR PLAN.

A. Confectioners' Classroom. B. Teachers' Room. C. Butchers' Classroom. D. Printers' Workshop.
E. Porter. F. Headmaster. G. Entrance Hall. H. Stores. J. Waiting Room.

joiners, engineers, mechanics, bakers, etc.) are taught at several centres, the remainder at one centre only. There are two large buildings solely used by Trade Continuation scholars—i.e., in the Prankhstrasse and the Liebherrstrasse, which I shall describe in detail shortly—and also four annexes or wings for trade continuation school teaching attached to other school buildings, which will be considered at the end of the present chapter. In addition to these six centres there are numerous scattered classes for minor trades, as well as for the general section and for girls. A very large school is now being erected in Deroystasse, adjoining the Prankhstrasse school, at a cost of about £75,000, from the designs of Herr Hans Grassel, one of the city architects. This will eventually supersede several of the smaller centres and will be especially devoted to the various trades connected with building. It will be realised that the dislocation of employers' work caused by apprentices going to school for two half-days a week is increased if the school is situated at a great distance from the scholar's

place of employment, so that the problem is to provide local schools for the large trades and central schools for the small trades as well as large trades.

The first to be built of the central schools is in the Liebherrstrasse, a somewhat shabby street in a working-class quarter near the river. It was designed by Herr Grassel, and cost £19,750 for building and £7,500 for equipment. At present there are 1,226 scholars on the books. The date is 1903-5 (see Figs. 16 and 17). Five floors, including the basement, are fully utilised, and also a large portion of the attic. In the basement, besides the usual heating and ventilating plant, etc., are two very large workshops for the wood and metal trades respectively, and one slightly smaller for stovemakers, etc. Each has a good teacher's room attached. On the ground floor are workshops for saddlers, upholsterers, bookbinders and glaziers combined, and coopers, with small museums or studies, and apartments for the caretaker. On the first floor are 5 classrooms, the assembly hall, Director's room with waiting room, a conference or committee room, and two rooms for teachers; on the second floor 6 classrooms, a



FIG. 15. TRADE CONTINUATION SCHOOL, STRASSBURG;
DETAIL OF DOORWAY.

library, and a room for teachers; on the third floor 6 classrooms, a workshop for watchmakers, and a room for teachers; on the top floor (partly in the roof) a science classroom for druggists with a laboratory and dark room attached, two studios for drawing, and a room for teachers. Compared with the examples previously cited, this school shows a great advance in the matter of workshops, but it is antiquated in comparison with later buildings, and the sanitary accommodation—among other features—is out of date. The exterior is now shabby in appearance, partly owing to its surroundings, and the internal court is little better than a backyard. The internal details and decorations lack the refinement and taste of the new schools in Frankfort or Bonn, nor is the lighting adequate. The assembly hall is large and extends to two storeys in height.

The Trade Continuation School in the Prankhstrasse (Figs. 18-20) was erected in 1905-6 from the designs of Baurat Robert Rehlen, at a cost of £24,800 for the building and about £9,000 for equip-

ment. In 1913 there were 2,628 names on the books, all being Compulsory Continuation scholars. This school is probably the most familiar to English educationists of any in Germany, for it is the one to which every visitor to Munich is taken, and it has been illustrated in a recent English book. Its handsome exterior in stone, rough-cast, and red tiles (Fig. 18), and its well-equipped workrooms have earned for it this exceptional notoriety. It is divided into two sections for purposes of organisation, one including what are called the "graphic" industries (*e.g.*, printing, bookbinding, lithography, etc.), the other a variety of trades requiring elaborate machinery and equipment.

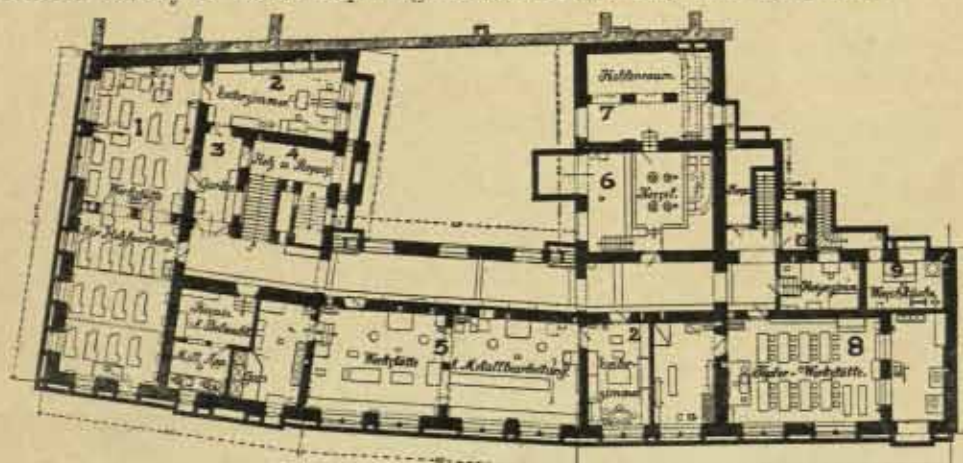


FIG. 16. TRADE CONTINUATION SCHOOL, LIEBHERRSTRASSE, MUNICH: GROUND FLOOR PLAN.
1. Wood Workshop. 2. Teacher's Room. 3. Cloaks. 4. Wood Store. 5. Metal Workshop. 6. Boilers.
7. Coal. 8. Pottery Workshop. 9. Wash-house.

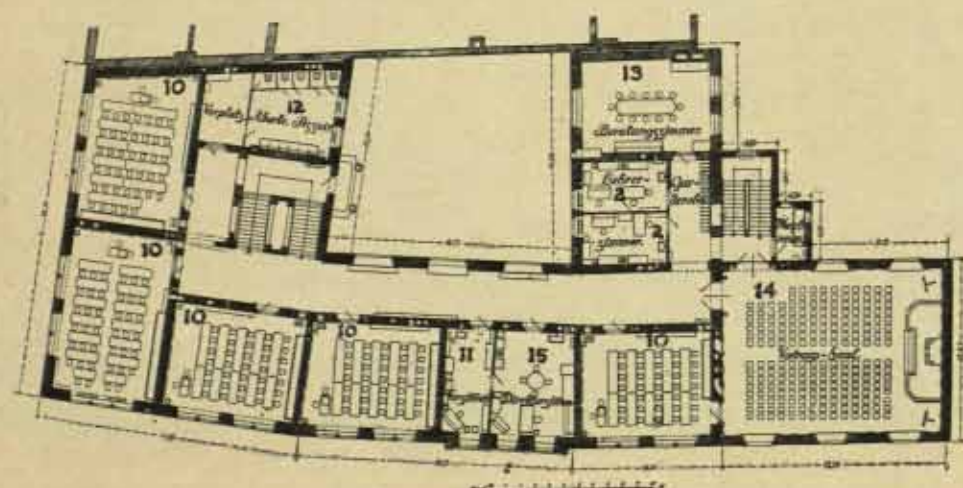


FIG. 17. TRADE CONTINUATION SCHOOL, LIEBHERRSTRASSE, MUNICH: FIRST FLOOR PLAN.
1. Teachers' Room. 10. Classroom. 11. Waiting Room. 12. Lavatories. 13. Teachers' Common Room.
14. Assembly Hall. 15. Headmaster's Study.

The whole of the six floors, including basement and roof, are fully utilised. The plan of the building is unusually simple, forming a rectangular block 185 ft. by 66 ft., divided by a central corridor into two equal portions. The only projection is the large gable on the south, but there is a long engineering workshop on the north at basement level and a cycle house in the playground at ground-level. The playground, by the way, belongs to an adjoining elementary school, and is fenced off from the Continuation School yard (see Fig. 19).

In the basement, besides the usual heating and ventilating plant, lavatories, and various store-rooms, are the workshops for the metal trades. The engine-room or machine-room on the north is unusually large, being 100 ft. by 14 ft., with a teachers' room attached. Fourteen students can work here simultaneously, and there are 10 machines of various kinds. Adjoining this room, but in the main building, is the mechanics' workshop, 65 ft. by 23 ft., accommodating 15 students, and at the south-west angle of the building is a foundry for 12 students. Another large workshop on this floor, also 65 ft. by 23 ft., is devoted to what the Germans call by the convenient name of "installations" (*e.g.*, installations of gas, electric light, plumbing, hot water, etc.). On the ground floor is a slightly larger workshop for joiners and woodworkers generally, for 16 students. Both this room and the mechanics'



FIG. 18. PRANCHSTRASSE, MUNICH.

room have excellent collections of models, and specimens of material in separate rooms which are practically departmental museums. This floor also contains a workshop for sculptors and plasterers, a lecture room for physics with laboratory, etc., attached, a room for teachers, and apartments for the caretaker.

On the first floor are a large assembly hall, a directors' room with waiting-room and clerks' office, a library for the staff and another for the scholars, a room for teachers, and 4 class-rooms.

On the second floor are a chemical laboratory with preparation room and 5 class-rooms. On the third floor are workrooms for lithographers, tinsmiths, and saddlers, a large studio for drawing, and 4 classrooms. The top floor, in the roof, is occupied by workrooms for the printing and photographic

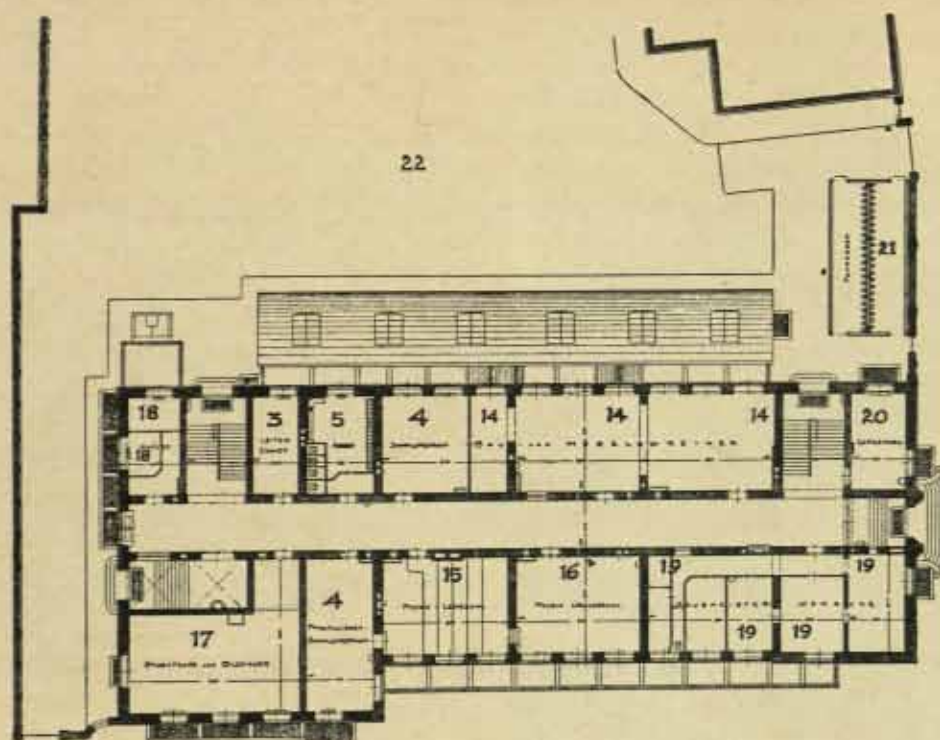


FIG. 19. PRANKHSTRASSE, MUNICH: GROUND FLOOR PLAN.

3. Teacher's Room. 4. Pattern Room. 5. Lavatories. 14. Wood Workshop. 15. Physics Lecture Theatre. 16. Physical Laboratory. 17. Plasterers and Painters. 18. Punishment Cells. 19. Care-taker's Flat. 20. Cloaks. 21. Cycles. 22. Yard.

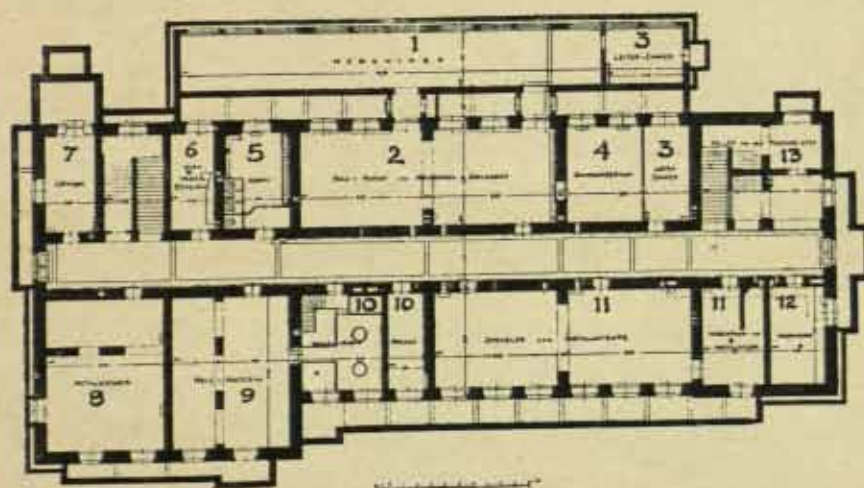


FIG. 20. PRANKHSTRASSE, MUNICH: BASEMENT PLAN.

1. Machine Room. 2. Metal Workshop (for Smiths). 3. Teacher's Room. 4. Pattern Room. 5. Lavatories. 6. Hot Water Apparatus. 7. Ventilating Plant. 8. Founders' Workshop. 9. Fuel. 10. Boilers. 11. Heating Apparatus. 12. Plumbers' and Installations Workshop. 13. Wash-house.

trades. The three printing rooms each accommodate 15 students, and contain among other appliances a hand press, two electric presses, and a paper-cutting machine. Each classroom accommodates 35 students and measures 29 ft. 6 in. by 23 ft.

The building is very simply decorated throughout, and one notices the absence of glazed tiling and faience, so usual in the most modern schools. But from the point of view of general design and equipment it must have profoundly influenced all succeeding Trade Continuation Schools.

The smaller district schools in Munich will be described shortly, and the Commercial Continuation School in Rosenthal has already been mentioned.

The Trade Continuation School at Stuttgart (Figs. 21 to 23) was erected in 1910-11, and is situated in Weimarstrasse. Unlike the eight new buildings already described in detail, it was designed by an architect in private practice, Herr Willy Graf, who was successful in a competition limited to Stuttgart architects. The cost of the building was about £25,000, and of the equipment about £3,000. There are 2,159 Compulsory Continuation scholars now on the books, but the school is also used by a large number of voluntary students who attend in the evenings. The plan is simple and economical. All the five floors are fully utilised, and there is no basement. The long projecting wing at the back, with north and south light, has the former aspect reserved for a suite of classrooms, the south side being occupied by a wide corridor with alcoves formed by a series of exhibition cases. The latter feature, already mentioned in connection with the Bruchsal school, has in this case actually been made an architectural element in the design (see fig. 23), and opens up new possibilities. Its importance from an educational point of view cannot be exaggerated. A reference to the plan, which is of necessity more detailed than my own sketch-plans of other schools, shows the great thickness of wall required to permit of ventilating flues, and also the way in which that thickness is utilised for cloak-cupboards, etc.

On the ground floor are 3 workshops for the metal trades, 1 for modellers, the heating and ventilating plant, a wash-kitchen, and a cycle-room. On the first floor are 2 workshops for mechanics, 2 for art metal workers, 1 for electrical workers, and 1 for sculptors, 5 small rooms for teachers, and

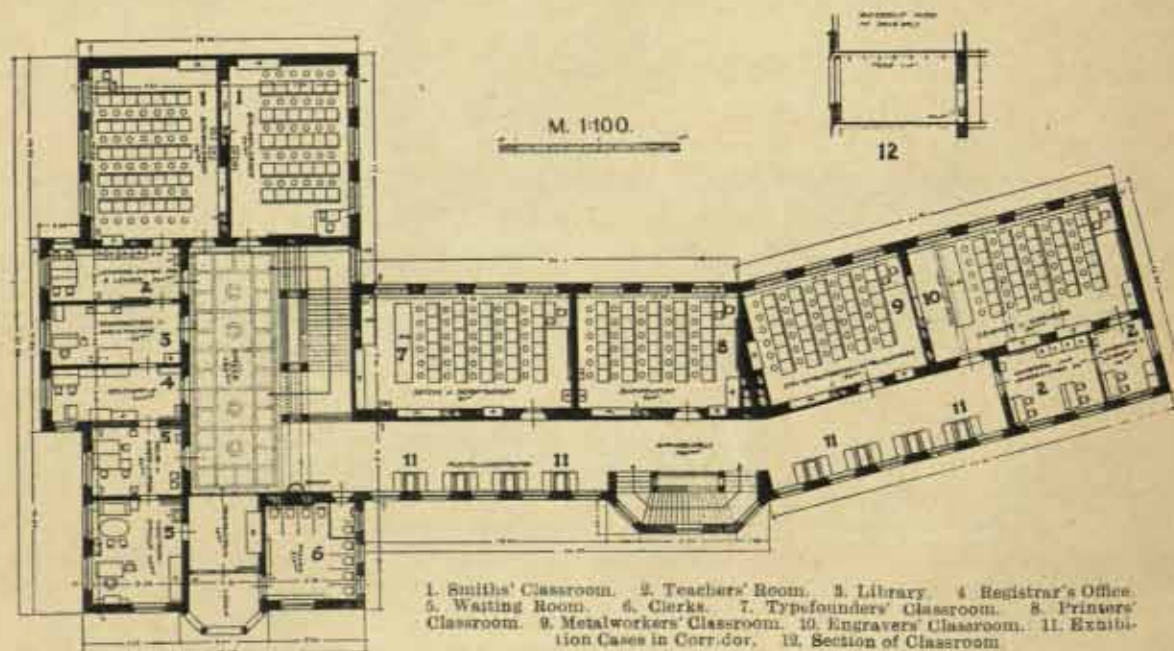


FIG. 21. TRADES SCHOOL, STUTTGART: GROUND FLOOR PLAN.

apartments for the caretaker. On the second floor are 3 classrooms for mechanics, 1 for "fine" mechanics, 1 for joiners, 1 for piano and organ builders, 3 administrative rooms, 3 small rooms for teachers, and a library. On the third floor are classrooms for upholsterers, compositors, printers, bookbinders, saddlers, 4 small rooms for teachers, a scholars' library and reading room, and a studio for general drawing. On the fourth floor, which is partly in the roof, are 2 large studios for painters and decorators, a top-lit studio for lithographers, another for electrical workers, a large science room with preparation rooms attached, and 1 small room for teachers.

Other features of the plan are the spacious and almost extravagant staircase and the lavatories, approached through an open lobby or loggia, which is, however, made far too prominent on the exterior (see Fig. 22).

At Chemnitz in Saxony, a rapidly increasing city with a population of 800,000, a new Trade Continuation School (Figs. 24 and 25) has recently been built for the following trades, amongst others: upholsterers, decorators, shoemakers, weavers, confectioners, sculptors, photographers, painters, bookbinders, printers, joiners, watchmakers, smiths, carriage-builders, mechanics, engineers, and metal-workers generally. The number of these scholars amounts to about 4,200 at the present time. The remaining scholars in the Trade section and the whole of those in the Commercial section meet in the old building previously mentioned.

The new school was completed in 1912 from the designs of the City Architect at a cost of £29,000, including equipment, and is situated in the Promenadenstrasse. The plan is simple, but not very economical, and the external design is very attractive. Between this building and a large Realschule adjoining is a pleasant little public garden. The surroundings in general do not suggest a large industrial city. Reinforced concrete is largely used in the construction—e.g., in



FIG. 22. TRADES SCHOOL, STUTTGART.

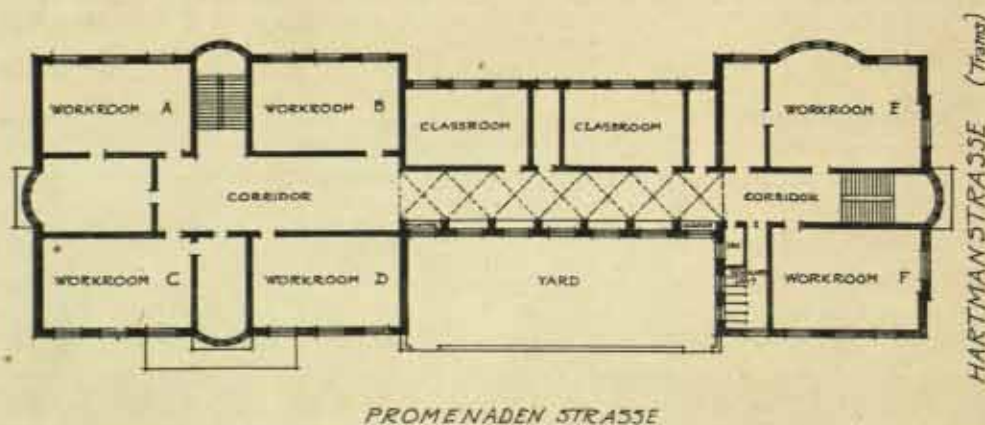
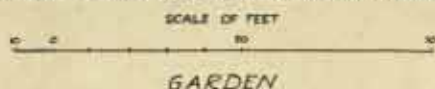


FIG. 23. TRADES SCHOOL, STUTTGART: EXHIBITION CORRIDOR.

floors, staircases, and the sides of the mansard roof. The total accommodation comprises 10 classrooms, 2 studios for freehand drawing, 10 rooms for technical drawing, 11 trade workshops, and 10 small rooms for teachers and for the storage of models, also rooms for the Director and his clerks, common room for teachers, apartments for two caretakers in the basement, and cycle-room, heating



FIG. 24. TRADE CONTINUATION SCHOOL, CHEMNITZ.



TRADE CONTINUATION SCHOOL
CHEMNITZ
SAXONY
SKETCH PLAN OF SECOND FLOOR BY H. S. BRIGGS

FIG. 25.

and ventilating plant, etc., in the basement. The classrooms generally measure 33 ft. by 19 ft. 8 in., the drawing classrooms 40 ft. by 23 ft., and the standard height of rooms is 18 ft. There is a science classroom fitted as a lecture-theatre. Throughout the building the equipment is admirable, and many novel appliances are to be seen.

The use of the Trade School at Dortmund in Westphalia (Figs. 26, 27) is by no means confined to Compulsory Continuation scholars, though they constitute the majority of the students. Out of 3,400 names on the books at the present time 600 are voluntary trade and art students of an advanced type and of both sexes, the remainder being boys in the Continuation classes. The present building in the Brugmannstrasse was completed in 1910 from the designs of Baurat Küllrig at a cost of about £51,000, but owing to the very rapid growth of the city, with a population of 241,000, a much larger scheme has become necessary. The Continuation scholars are to be transferred from the present school to a new building now in course of erection. The latter only forms part of a huge block of educational buildings which is expected to cost £175,000 (exclusive of the existing Trade School), and will also include a Realschule, a Mittelschule, and a Commercial School. It is a common practice in Germany to group schools of various types on one large site, which certainly tends to produce a good effect architecturally. When the new buildings are completed the present Trade School will be occupied

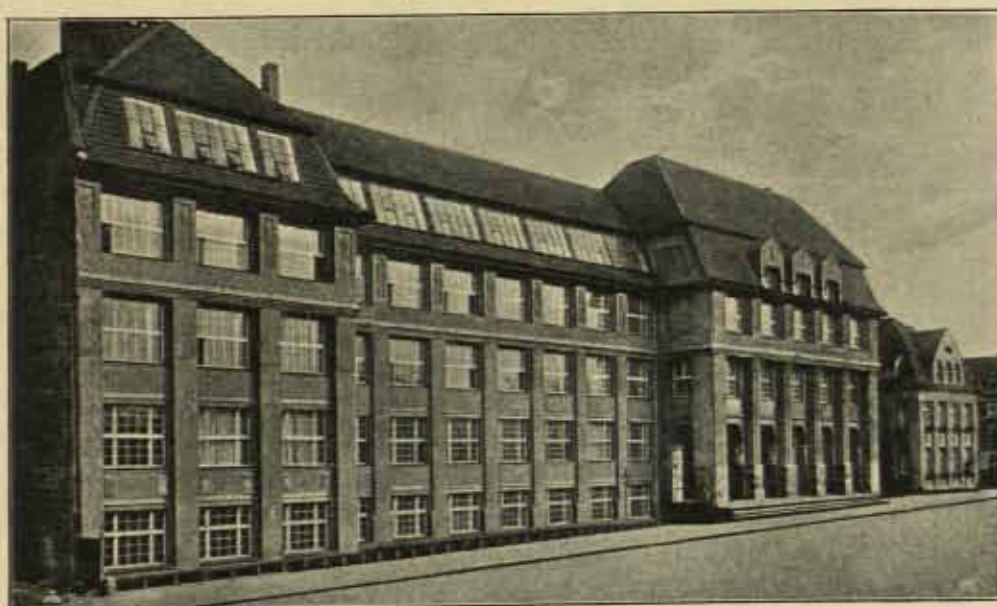


FIG. 26. TRADE CONTINUATION SCHOOL, DORTMUND, WESTPHALIA.

by voluntary students only. The plan is unusual, the workshops being built out in a long wing in the playground, whereby a good north light is obtained. A detached house for the Director occupies the south-west angle of the site, and is connected with the Director's study on the second floor by means of a small bridge. In the playground is installed gymnastic apparatus. On the ground floor, besides baths, lavatories, heating and ventilating plant, etc., are 7 workshops for mechanics, metal-workers, and waggon-builders; for furniture makers; for bricklayers and masons; for painters; for modellers; for wood carvers; and for stone carvers. On the first floor are 2 large workshops for wood workers (joiners, carriage builders, etc.), 1 drawing classroom for joiners, 1 classroom for the building trades, 1 drawing classroom for building trades, 1 general drawing-classroom, 1 classroom for electrical workers and 2 workrooms for "installations," also apartments for a caretaker, and for the heating-apparatus attendant on a mezzanine floor above. On the second floor are a suite of 6 administrative rooms, including a library; 1 workroom each for saddlers, for the tailors and clothing trades, for bookbinders; 1 classroom for building trades; 1 drawing classroom each for metal-workers and mechanics; for the building trades; and a general drawing classroom.

On the third and fourth floors, which do not extend over the east wing containing the workshops, are a large assembly hall, an exhibition room adjoining, 1 workroom each for photographers and

but is certainly one of the best schools of the kind in the country. Concrete has been extensively used in the internal construction.

The most recent school which I visited in Germany was that at Karlsruhe (Figs. 28, 29), which has not yet been formally opened and was not completed when I saw it in April, 1914. The building was, however, practically finished and joinery was being fixed. Like the fine school at Stuttgart, this school was designed by an architect in private practice and won in a competition limited to those practising in the city. Like the Stuttgart school, too, its use is not limited to compulsory Continuation scholars. The architect is Professor Beck, the cost £75,000, exclusive of equipment, and the number of scholars accommodated at one time is said to be 1,300. The cramped and irregular nature of the site has enabled the architect to display some skill in planning. At the outset it was intended to provide both Commercial and Trade sections within the building, and this fact explains the principle of the plan. Towards Adlerstrasse are arranged the suite of administrative rooms on the first floor, with the principal entrance through a spacious vestibule to a broad staircase. Towards the north is arranged a fine row of classrooms, all magnificently lit, separated by small rooms for study. Each of these little rooms projects externally as a huge pilaster, and between the bases of these pilasters are placed the areas lighting the workshops in the basement. On the south it was intended to place the Commercial Continuation School, with its own staircase, lavatories, etc., as shown on the plan. But the subsequent decision of the authorities to utilise the new building for trade classes only and to transfer all the Commercial classes to the old Trade School has destroyed the *raison d'être* of this feature. It is a broad and simple design, and, moreover, singularly economical in many respects. Externally the elevations perhaps err on the side of severity, but are of a refined and academic character well suited to their purpose, and are faced with a light-coloured stone.

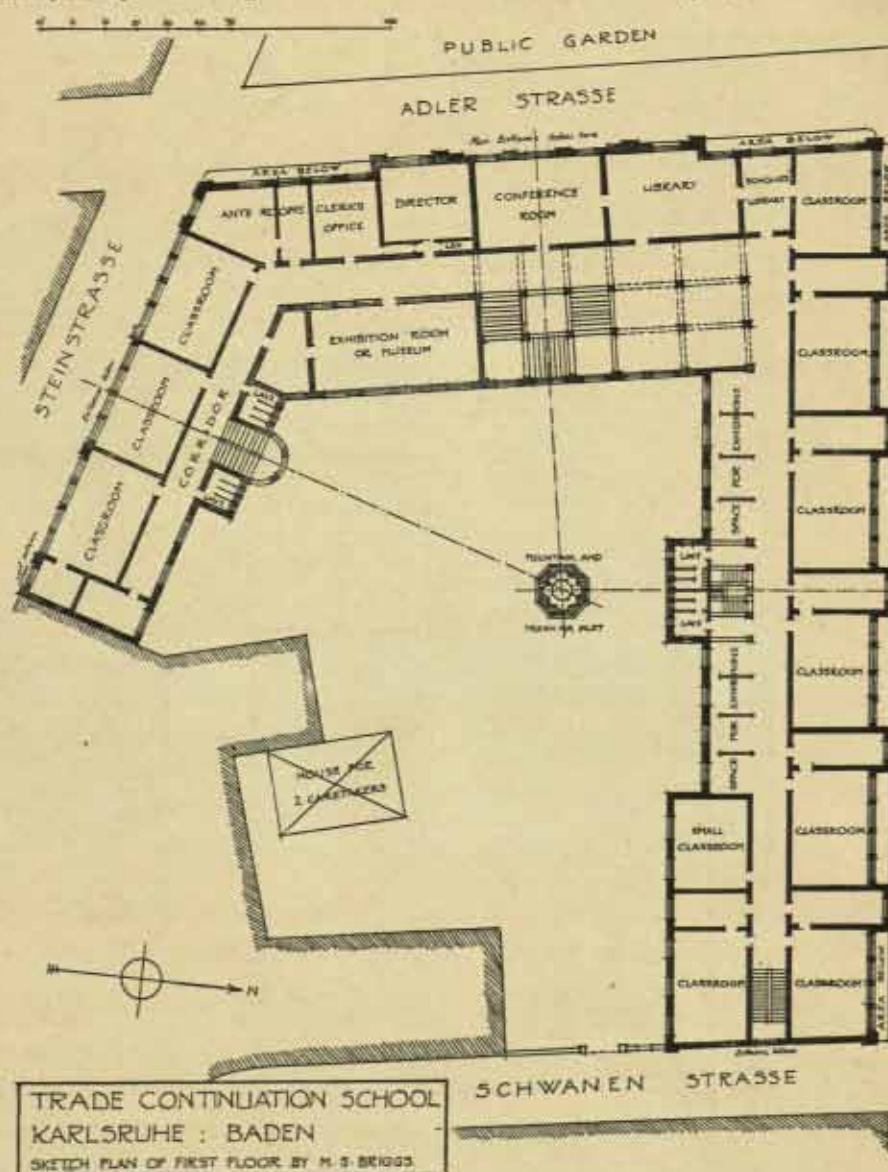


FIG. 28.

The basement contains the heating and ventilating plant, a cycle room, a gymnasium, a bath, and a long range of workshops on the north. The ground floor is chiefly occupied by classrooms, except for the central entrance-hall on the west. The first floor, as shown on the plan, is also devoted to classrooms, but contains in addition the administrative rooms as well as a library and a museum. On the second floor the chemistry rooms occupy the south front, the electrical room the south-west angle, the physics lecture-theatre and laboratory, the space above the exhibition room, and a large lecture-room the central position on the west. The remainder of the second floor consists of classrooms as before. On the third floor are a number of rooms for drawing, photographic studios and workrooms, and rooms for nature-study. In the roof over the west wing is the carpenter's workshop. The height from floor to floor of the various storeys is 14 feet 7 inches.

In the courtyard is a dwelling-house for two caretakers and their families, with a joint laundry in



FIG. 29. TRADE CONTINUATION SCHOOL, KARLSRUHE.

the basement. The feature in the centre of the courtyard is apparently a small *tempietto* standing in a fountain, but in reality it serves the purpose of a fresh-air inlet for the ventilating system.

The most elaborately equipped Trade Continuation Schools that I visited were, however, not in Germany but in Austria, where very similar conditions to those of Germany obtain in regard to the system of education. In the little manufacturing town of Aussig, in Northern Bohemia, picturesquely situated in the valley of the Elbe, with a rapidly-increasing population of about 40,000, a school was built in 1908-10 for those engaged in the metal-trades (see Figs. 30 and 31). Here are taught shipwrights, blacksmiths, coppersmiths, tinsmiths, mechanics, file-cutters, fitters, grinders, founders, pattern-makers, gas-fitters, electricians, opticians and watchmakers. The remaining Trade scholars are taught in an old Elementary School, and there is also a Commercial School for the Commercial scholars.

The new school is also used by more advanced students, there being about 80 of these as compared with 400 Continuation scholars, and it is quite full. In fact an extension has been projected. The plans were prepared by Herr Leobner, an architect in the service of the Austrian Government at Vienna, but

2. Teacher's Room. 2a. Porter
4a. Physical and Electrical Class-
room. 10. Lift. 11. Museum for
Physics and Electricity. 12. Elec-
trical Laboratory. 13. Cloaks.
15. Photometry. 16. Photography.
17. Chemical Laboratory. 17a.
Chemical Room. 18. Store for
Drawing-boards.

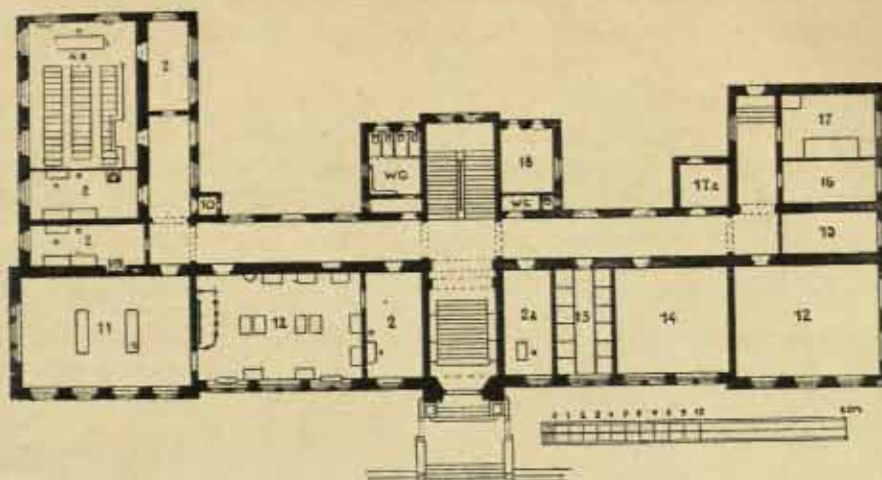


FIG. 30. TRADE CONTINUATION SCHOOL, AUSSIG, BOHEMIA: GROUND FLOOR PLAN.

A. Boiler House. B. Boatbuilding Workshop.
C. Store. D. Motors. E. Pattern-makers' Work-
shop. F. Pattern Room. G. Smiths' Workshop,
etc. H. Engine Room. I. Foundry. J. Coke.
K. Sand. L. Porter. M. Wash-house. N. Cloaks.
O. Baths. P. Coal and Iron. Q. Lacquering.
R. Plating. S. Oil Store. T. Instructor.
U. Tool Store. V. Workshop Instructor.
W. Assistant Caretaker. X. Finished Work.
Y. Instructor. Z. Caretaker's Rooms.

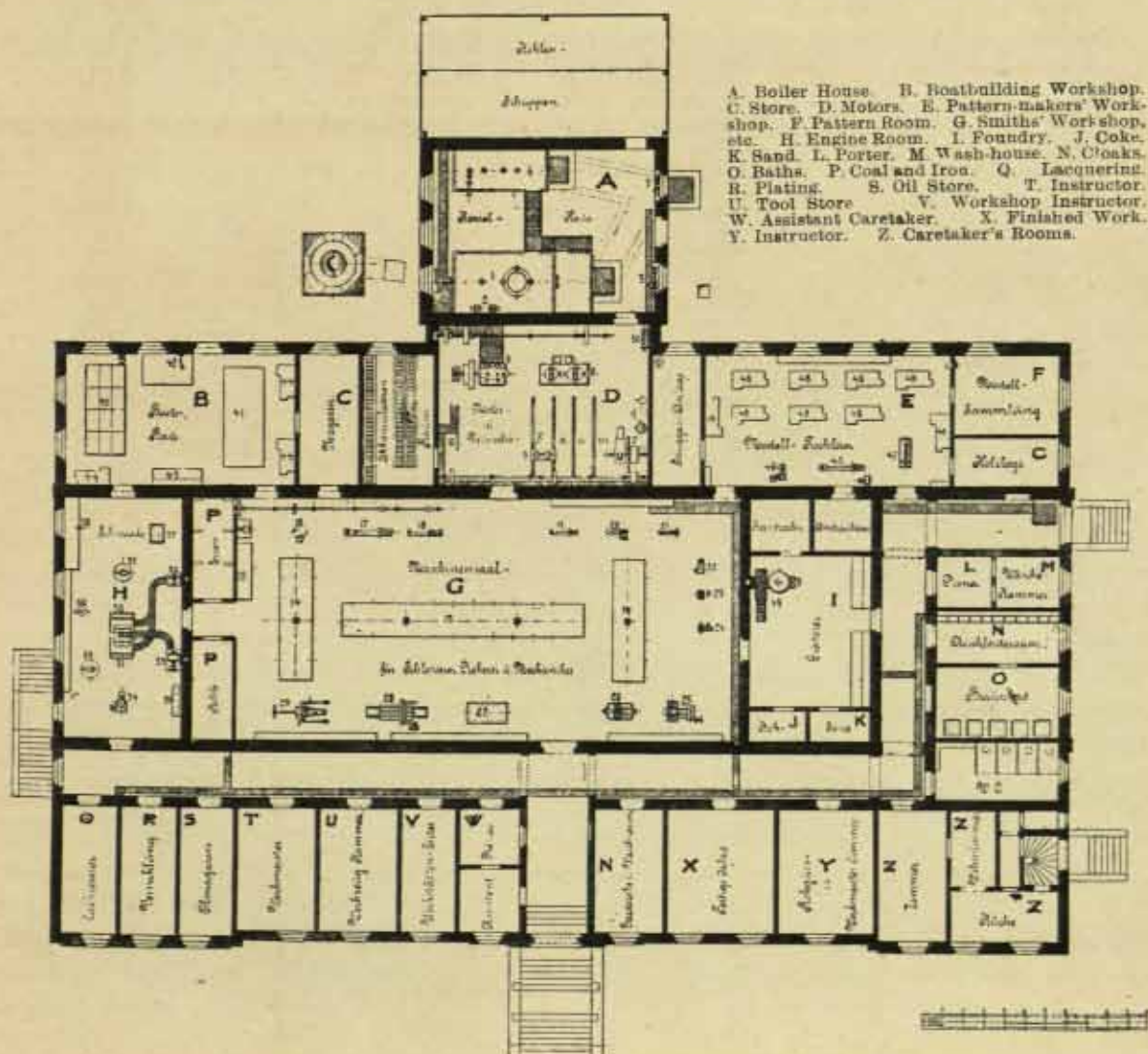


FIG. 31. TRADE CONTINUATION SCHOOL, AUSSIG, BOHEMIA: PLAN OF WORKSHOPS.

for the external elevation a local architect was employed by the municipality. The cost of the building amounted to £27,100, and the equipment, which is still not quite complete, has amounted to £6,250 to date.

The buildings form three distinct blocks, one being the Director's house, a comfortable detached villa. The others are devoted to theatrical and to practical teaching respectively. The former is four storeys high, including the basement, which is partly above ground-level owing to the steep slope of the site. In the basement is one classroom, a drawing-floor for shipwrights, a teachers' room, various cellars and apartments for the caretaker. On the ground floor are two laboratories, a museum, a science classroom, a small chemical laboratory with preparation rooms, etc. On the first floor are 4 classrooms, an engineering museum, 3 small teachers' rooms, a small room for interviewing parents, etc., and various administrative rooms. On the second floor are 5 classrooms, a shipbuilding museum, 1 small teacher's room, a scholars' library, and a teachers' library. This school is fitted with modern cloakrooms and lavatories and has a small service lift.

The workshop building is one storey high, and its arrangement is best understood by a reference to the plan (Fig. 31). The outside dimensions are 155 feet by 100 feet, plus a projecting boiler house. The construction is entirely of reinforced concrete. The tall chimney adjoining is about 100 feet high. A machine room or engine room, 90 feet by 40 feet by 16 feet 6 inches high, occupies the central position, with a smith's room at one end and a foundry at the other. On the north are workshops for shipbuilders, electricians, and patternmakers. On the south are 14 small rooms for storage and administrative purposes. On the east are baths, w.c.'s, cloakrooms, etc.

From the above facts it will be realised that the Aussig School is, comparatively, very expensive, and it must be borne in mind that it only contains students of engineering and the allied trades. The equipment throughout is admirable, and reflects great credit on Herr Reimoser, the Director, to whom I owe the plans accompanying this description.



FIG. 32. CENTRAL TRADE CONTINUATION SCHOOL, VIENNA. WEST AND SOUTH FRONTS.

(To be continued.)



9 CONDUIT STREET, LONDON, W., 25th September 1915.

CHRONICLE.

R.I.B.A. Record of Honour: Sixteenth List.

Killed in Action.

PULLIN, HENRY CHARLES [*Licentiate*], Rifle Brigade: until recently stated to be missing, but now reported to have been killed in action on 26th April. Aged 46 years.

Mr. Pullin served a four-years' term of articles with Mr. F. E. Wade [*F.*], and remained in his office as assistant for six years. He afterwards assisted other architects, chiefly in London and Brighton, and did competition and other small works on his own account.

Wounded.

KIRK, ALBERT E. [*F.*], Lieut.-Colonel commanding 7th Bn. West Yorks Regiment. Wounded in the trenches in France on 28th August. In hospital in London and progressing favourably.

GRELLIER, CECIL [*Student*], 2nd Lieut., 10th Bn Hampshire Regiment. Wounded in Gallipoli on 10th August. In hospital at Alexandria and progressing favourably.

RIDLEY, BASIL WHITE [*Student*], Captain, 7th South Lancashire Regiment. Wounded in the trenches in Flanders on 3rd September. Now in England and going on well.

RIDLEY, GEOFFREY WILLIAM [*A.*], Lieut., 4th Royal Sussex Regiment (brother of Capt. B. W. Ridley above mentioned). Wounded in the Dardanelles on 15th August, and sent home. Recovering, and hopes to return to the Front very shortly.

PITE, ROBERT WILLIAM [*Student*], Lance-Corp., R.E. (son of Mr. W. A. Pite [*F.*]). Seriously wounded in Gallipoli on 7th August. In hospital at Cairo

Died on Service.

DICKEN, ALDERSEY [*Licentiate*], Sub-Lieut., R.N.V.R. Drake Battalion. Died 12th September.

Newly enlisted in the Army or Navy.

The following is the Sixteenth List of Members, Licentiates, and Students who have joined H.M. Forces for the period of the War, the total to date being 45 Fellows, 334 Associates, 165 Licentiates, and 212 Students:

FELLOW.

Sladdin, T. A.: Lieut., Army Service Corps.

ASSOCIATES.

Beare, Josias C.: 2nd Lieut., Hants (Fortress) R.E.
Cole, L. E.: 2nd Lieut., 11th Bn. King's Own Yorkshire L.I.
Cope, G. A.: 2nd Lieut., Cornwall R.G.A.
Fitzgerald, G. E.: Natal Light Horse.
Ingram, T. F.: Army Service Corps, M.T.
Myer, Val.: Adjutant, R.E.
Smith, Frank W.: 2nd Lieut., 3/2 Wessex R.E.
Stubbs, E. W.: R.A.M.C. (T.).
Waghorn, Stanley: Sub-Lieut., R.N.R.

LICENTIATES.

Chaikin, Benjamin: 2nd London Sanitary Coy.
Chalmers, Frank R.: 2nd London Sanitary Coy.
Cran, John, Jr.: Active Service, German S.-W. Africa.
Newton, Percy G.: Royal Engineers.

STUDENTS.

Gray, G. H.: 2nd Lieut., R.E.
Lister, H. A.: R.A.M.C.
Willan, W. S.: R.N.A.S.

Honours, Promotions, and Appointments.

Major H. Phillips Fletcher [*F.*], of the Middlesex Hussars, brother and partner of Mr. Banister Fletcher [*F.*], has been awarded the *Croix de Guerre* upon the recommendation of Admiral Dartige Fournet, of the French Mediterranean Squadron. Major Fletcher was specially lent to the *Aviation Maritime* as Military Observer, and for the last four months has been employed making aerial reconnaissances of Turkish positions from the coast, and dropping bombs on munition factories in Asia Minor, Syria and Arabia. His services are mentioned as follows in the Admiral's *Ordre du Jour*:—

"Le Vice-Amiral commandant la 3^{me} escadre porte à l'ordre du jour de l'escadre—

"Le Major H. Phillips Fletcher, Middlesex Hussars (1st County of London Yeomanry), et le Lieutenant de Vaisseau Destrem, pilote aviateur, pour le sang-froid, le calme et les qualités professionnelles dont ils ont fait preuves au cours de diverses reconnaissances, et notamment de l'action dirigée contre le Pont de Chikaldère le 20 Août, et au-dessus de Beyrouth, Aley et Aïre Sogar, le 21 Août, pendant lesquelles ils ont été en butte au feu de l'infanterie et des mitrailleuses ennemies, dont les balles ont atteint leur appareil.

(Signed) "L. DARTIGE DE FOURNET."

Professor Eugène Bourdon, Director of the Glasgow School of Architecture, and now serving as Captain on the Staff of the French Army, was gazetted on the 4th August last as a Knight of the Legion of Honour.

The following promotions and appointments have been gazetted:—

Godman, Capt. C. R. B. [*Licentiate*], to Major, 4th Royal Sussex Regt.

Hillyer, Lieut. W. H. [*S.*], to Capt., R.E.

Searle, Lieut. Sydney [*A.*], to Lieut.-Commander, R.N.V.R.

Phipps, R. A. Hyatt [*A.*], Lieut., King's Own R. Lancaster Regt.

Coleridge, P. H. [*S.*], Lieut., 16th Sherwood Foresters.

Webster, Sergt. Frank C. [*A.*], Lieut., Army Ordnance Dept.

Coleridge, J. D. [*Licentiate*], Sub-Lieut., R.N.V.R.

Charlewood, G. E. [*S.*], 2nd Lieut., 4th Northumberland Fusiliers.

Godwin, W. Hubert [*A.*], 2nd Lieut., R.E.

Grellier, Cecil [*S.*], 2nd Lieut., 10th Hampshire Regt.

Norris, Leslie A. [*S.*], 2nd Lieut., R.E.

Wheeler, C. W. F. [*A.*], 2nd Lieut., Army Service Corps.

Dr. Thomas Ashby, Director of the British School at Rome, is serving with the British Ambulance Unit organised for service in Italy by the British Red Cross Society. The Unit, which consists of 55 officers and men, with 20 ambulances and five other cars, crossed the Channel last month, and travelled by road through France and across the Alps to Turin.

R.I.B.A. Sessional Papers, 1915-16.

The programme for the forthcoming Session of the Royal Institute includes the reading of the following Papers:

- Nov. 15.—"A Ministry for Architecture and the Ministry of Architecture," by Professor W. R. Lethaby [F].
 Dec. 13.—"A War Hospital in France," by T. E. Eccles [F].
 Jan. 17.—"The Housing of the Labouring Classes," by Barry Parker [F].
 Feb. 14.—"The Work of Philip Webb," by W. Curtis Green [F].
 Mar. 13.—"Stucco: Its Uses and Abuses in the External Treatment of Buildings," by Edward Warren, F.S.A. [F].
 Mar. 27.—"A Building Act for London," by H. D. Searles-Wood [F].
 Apr. 10.—"Decorum Urbium," by Professor A. Beresford Pite [F].
 May 15.—"English Domestic Architecture from 1780," by A. E. Richardson [F].

Council Appointments to Standing Committees.

The following appointments to the four Standing Committees have been made by the Council under By-Law 51:

ART.—H. P. Burke Downing [F.]; Harry Rodfern [F.]; Harry Sitt [F.]; Raymond Unwin [F.]; W. A. Webb [A.].

LITERATURE.—H. G. Ibberson [F.]; A. R. Jemmett [F.]; Herbert A. Satchell [F.]; H. H. Wigglesworth [F.]; C. E. Sayer [A.].

PRACTICE.—W. G. Hunt [F.]; Alan E. Munby [F.]; Sydney Perks, F.S.A. [F.]; W. Gillbee Scott [F.]; W. Henry White [F.].

SCIENCE.—Ernest Flint [F.]; Osborn C. Hills [F.]; N. O. Searle [A.]; C. E. Vandell [A.]; Herbert A. Welch [A.].

The War Office and Architects' Services.

In the House of Commons last week Mr. G. A. TOUCHE, Member for North Islington, asked the Under-Secretary for War if in January of this year, on its being known that men were wanted for hut work in France, the War Office were reminded of the offer of the services of the architectural profession made through the Royal Institute of British Architects in September 1914, and how many men nominated by the Institute or its President were thereupon appointed to work in France. Mr. Touche also wished to know (a) If the offer of the services of architects made through the President of the Institute in May 1915, which it was stated the War Office had not availed themselves of because the greater part of the work was then finished, was supplementary to previous offers, and was submitted after hearing that many huts had been badly placed and badly built, with the hope of preventing anything of the kind in the future; (b) If a formal offer of the services of the architectural profession was received through the R.I.B.A. in September 1914, and if any steps were taken by the War Office at that time to avail themselves of the services of competent men so offered; (c) If in October 1914, or shortly afterwards, the names of about 50 men, selected with great care as suitable for supervising certain military works then under consideration, were submitted to the War Office by or on behalf of the

R.I.B.A., and whether the services of any, and if so how many, of these skilled men were thereupon utilised; (d) If the Under-Secretary for War would state the total number of men whose services had been employed by the War Office arising out of the original and subsequent offers of the R.I.B.A. to supply competent men for every kind of work connected with the profession.

Mr. TENNANT replied: Offers were made by architects, and names of gentlemen selected by the Royal Institute of British Architects were submitted to the War Office in November, but for the building of the large hutted camps in the British Isles and for work in France civil engineers rather than architects were needed. The huts in all cases followed typical plans, prepared by the already existing technical staff at the War Office, copies being distributed to various local officers. There was consequently comparatively small scope for designing. But the local problems of water supply, sewerage, lighting, etc., which varied in every case and were in some cases of great magnitude, were such as appertain to the engineering profession, and experts in these branches were engaged in various places to supplement the technical staff at headquarters and in various commands. About ten gentlemen who were members of the R.I.B.A. were so appointed, as far as can be traced, but none of these were in the list submitted in November by the Institute. As far as the quality of the hutted camps is concerned, the Army Council invited the President of the Institution of Civil Engineers to appoint a committee of inspection. This was done, and a strong voluntary committee, with the President as chairman, visited all the large camps in the early part of this year, while they were still under construction. They dealt with design, construction, materials and adaptation to sites, though not with any purely military questions, and the views they expressed supported the action taken by the War Office generally in respect of the gigantic task with which they were confronted last year. As far as the R.I.B.A. is concerned, it may be said that, having regard to the requirements of the public service, and the enormous number of offers received from other institutions and individuals, the Institute received a due share of attention and of appointments.

British Institutions and Alien Enemy Members.

The Council of the Iron and Steel Institute, with a view to the avoidance of possible future difficulties, are proposing the adoption of a new by-law for their Institute as follows: "In the event of a state of war existing between Great Britain and any other country or State, all members, honorary members, and honorary vice-presidents who shall be subjects of such enemy country or State shall forthwith cease to be members, honorary members, or honorary vice-presidents of the Institute, but they may, if the Council thinks fit, be reinstated after the termination of the war."

Herr Stübben on Germany's "Natural War Objects."

Dr. Hermann Stübben, the Berlin architect—a member of the Comité Permanent International des Architectes, well-known in connection with the meetings of the International Congresses of Architects, and one of the Corresponding Members of the Institute whose names the Council have decided to delete from the R.I.B.A. KALENDAR—writing on Germany's war aims in the *Kölnische Zeitung*, says:—

For the securing of the western frontier Belgium and Northern France come first for our consideration. Apart from certain rectifications of the frontier, there can be no question of annexing them. A military control by Germany over the conquered fortresses and the Flemish coast will be perfectly compatible with the inner independence of Belgium; but France, in order to get her territories back, will have to pay a heavy indemnity in money and colonies. The strategical improvement of the Austro-Italian and Hungaro-Serbian frontiers will also be necessary. In addition, the punishment of Italy for her unparalleled faithlessness, and of Serbia for the Serajevo murders, form also natural war objects. As for England, she is secure behind the backs of her Allies, but in any case what we shall exact from her—the return of the German colonies, the freedom of the seas, so far at least as the indemnity of private property at sea is concerned, and, lastly, a war indemnity of many millions—will not be dangerous to the national existence of the British Empire.

R.I.B.A. Belgian Architectural Records Sub-Committee : Interim Report.

The Belgian Architectural Records Sub-Committee appointed by the Literature Standing Committee on the 25th February have held six meetings. In response to the appeal made in the Press by the R.I.B.A. President for gifts of records and illustrations of Belgian architecture, the gifts indicated below have been accepted by the Committee and received to date:—

1. MR. ERNEST SWAIN (Chorley Wood):
"Flemish Relics," by F. G. Stephens (1866).
"Belgium," by Emerson Tennent (1844).
26 photos of Malines, Ghent, Bruges, Brussels, Antwerp.
19 prints of Bruges, Ypres, Audenarde, Namur, Antwerp, Brussels and Malines.
2. Miss M. C. WHITE (Sevenoaks):
Plan of Antwerp, 2 view books.
Catalogue of Wiertz Museum, Brussels (1891).
3. Mrs. SIDNEY BALL (Oxford):
Wild's "Etchings in Belgium" (2nd series, 1836).
4. Mr. M. T. G. WRIGLEY (Spitalfields):
4 prints of Waterloo and Brussels.
5. Mrs. SHIELDS (Harrow):
14 small photos of Antwerp, Malines and Brussels.
6. Mr. WM. WOODWARD, F.R.I.B.A.:
91 mounted photographs of Antwerp, Audenarde, Bruges, Brussels, Louvain, Malines, Ostend and Tournai.
7. Mr. FREDK. ROGERS (New Cross):
"Holland and Belgium," by Van Kampen (N.D.).
8. Miss OKEY (Hendon):
Print of Tower of Cathedral, Malines.
9. Mr. W. H. WILLIAMSON (Cricklewood):
5 small photographs of Furnes and La Paille.
10. Mr. T. WALTER SMITH (Bushey Heath):
Photo of painting of Liège by Van Hove.
11. Mr. C. E. GRITTON:
Baedeker's "Belgium" (1894) and "Northern France" (1899).

12. Miss VIOLET BARWELL (Bristol):
4 photographs of Liège and Brussels.
13. Mr. A. T. ROBERTSON (Cricklewood):
4 small photographs of Bruges and Ypres.
14. Miss M. CALDELEUGH (Durham):
Print of Antwerp.
15. Mr. L. V. JAMES (Shepherd's Bush):
4 small photos of Furnes.
16. Mr. V. TRUGELS (Croydon):
"Belgium Illustrated" (1914).
17. Mr. GEO. H. REED (Ilfracombe):
1 postcard view of Furnes, 1 print of Bruges.
18. Miss E. FELLOWES (Wokingham):
15 small photos of Furnes, Dixmude, Diest, and Nieuport.
19. Sir ERNEST GEORGE, A.R.A., F.R.I.B.A.:
7 original sketches in Malines and Antwerp.
20. Mr. WALTER MILLARD, A.R.I.B.A.:
88 sheets of drawings, photos and prints of buildings in Aerschot, Antwerp, Audenarde, Bruges, Brussels, Courtrai, Damme, Dinant, Ghent, Huy, Liège, Malines, Tournai, Villers and Ypres (with sundry sketches from places outside Belgium).
Water-colour (original) of the rood-screen at Dixmude.
21. Mrs. VAUGHAN (Nevern Road, S.W.):
16 photos of Dinant, Ypres, Louvain, Antwerp, etc.
22. Miss G. ATCHISON (Oxford):
4 photos of Furnes.
23. Mrs. LAWFOED (Eastbourne):
2 prints by Prout, of Ghent and Rouen.
24. Mr. HALSEY RICARDO, F.R.I.B.A.:
16 photographs of Antwerp, Audenarde, Bruges, Brussels, Ghent, Louvain, Ypres (also 7 photos of Rheims).
25. Mrs. BRYAN DONKIN (Reigate):
4 photographs of Mons and Bruges.
26. M. F. BARTIER (of Ypres, now at Leek):
"Mes Souvenirs d'Ypres" (N.D. recent).
27. Mr. T. IRONMONGER:
Guide-book to Ypres.
28. Mr. C. WONTNER SMITH, F.R.I.B.A.:
5 original sketches of Bruges and Damme.

The Committee have declined several offers of gifts, either because duplicates of the books or prints offered were already in the Library, or because they were not of the architectural character aimed at in forming the collection.

Special appeals have been made to leading architects by individual members of the Committee, and the result has been to obtain some valuable original sketches. It will, however, be noticed that there is a lack of illustrations of many of the smaller towns—Termonde, Hal, Poperinghe, Tongres, Lierre and Alost not being represented at all; and many others—such as Courtrai, Aerschot and Dinant—very inadequately.

The books, photographs and prints presented as a result of the President's appeal, supplemented by purchases as necessary, will eventually be embodied in the R.I.B.A. Library, and as soon as practicable a separate card index of references to architecture in Belgium will be prepared, so that illustrations and descriptions of any building may be found with the minimum of effort.

It is therefore desirable that any members of the Institute who are willing to present to the Committee any books, photographs, measured drawings, sketches,

old town-plans, local guide-books, or old prints illustrating the historic architecture of Belgium (especially of the smaller towns) should send their gifts to the Hon. Sec. of the Belgian Architectural Records Sub-Committee at the R.I.B.A. as soon as possible.

MARTIN S. BRIGGS [A.],

September, 1915.

Hon. Secretary.

Victoria and Albert Museum.

The Serbian Government has presented to the Victoria and Albert Museum and to the British public the marble torso of Strahinić Ban, by Ivan Meštrović, in proof of their appreciation of the interest shown in the recent exhibition of his work. The torso is on view in the Central Hall of the Museum; the remainder of the Exhibition is now closed.

THE ARTISTS' RIFLES.

The chief work of the Artists' Rifles is to train officers. The fact is not so well known as it might be. No Territorial Corps has a finer history. For nine years in succession they proved themselves, at the Royal Naval and Military Tournament, the champions in bayonet fighting, first of the Auxiliary and afterwards of the Territorial Forces. In 1905 it was suggested that the winners of the Navy and Army bayonet fighting competition should have a special combat with the winners of the Auxiliary Forces competition—the Artists. The Artists won.

They landed in the firing line in France last autumn. Sir John French then took them back to Headquarters to form a School of Instruction. The men were gazetted to different regiments in the firing line and distinguished themselves as officers. Eleven members of the Corps have been mentioned in despatches, and seven have been awarded the Military Cross for "conspicuous gallantry and devotion to duty," whilst all have gained the praise of their superior officers.

The total number of commissions gained by members of the Artists exceeds 1,600, and out of this number over 500 have been gazetted to Regular regiments. At the start (according to Sir John French's despatch of 2nd February, 1915) the training school in France was able to turn out officers at the rate of 75 a month. This has since been increased to 100. It must be remembered that these men are gazetted from the School of Instruction alone and that many commissions are gained by men in England before they ever get to France.

The Third Battalion of the Artists' Rifles is in training at a picturesque Essex camp under Lieut.-Colonel Shirley, an Instructor at Sandhurst for five years, assisted by a staff of officers many of whom have been on the Western front during the early months of the campaign. The men go through an extremely interesting course. There are special courses in Field Engineering, Signalling, Map Making, and the Machine Gun, under experts in the different

subjects. The men live as ordinary soldiers do, and the "fatigue" work of the Corps is carried out entirely by them. Practically all the Officers and all the N.C.O.'s have been through the ranks of the Artists.

The Corps is open to educated men of all professions and pursuits. The connection between the architectural profession and the Artists is well known, and there are members known in art, music and literature, commercial men, engineers, famous sportsmen and men from overseas who, in pre-war days, were prospectors, miners, ranchers, and fruit-farmers. At the Corps' Headquarters in Duke's Road, Euston, the recruits are prepared for camp life. There are capable officers and N.C.O.'s, and the newly-enlisted man is quickly versed in the art of drilling.

The stay in London is quite brief, but by the time the recruit joins the Battalion in camp he knows all the rudiments of drill and is able in a short time to delve further into the mysteries of a soldier's training. The camp is never unpleasantly overcrowded, for the obvious reason that men are constantly being gazetted to other regiments. It is a difficult matter to regulate the supply and demand, but Colonel Shirley has apparently succeeded to a high degree. No man receives useless training, and so soon as he is efficient he is permitted to take his departure in order to accept a commission. Trained as a soldier first and as an officer afterwards, he becomes a man who is sought after by Commanding Officers with vacancies in their commissioned ranks. The name "Artist" is a magic word: it is the "open sesame" to many a military door that would otherwise be closed. And it is only natural. Out in France and in the Dardanelles artist-officers are winning honour for themselves and honour for their regiments, and their men will follow them anywhere, for an Artist appreciates a soldier's difficulties and knows exactly what he has to endure.

T. HAROLD HUGHES [A.].

CORRESPONDENCE.

The Artists' Rifles' Regimental Roll of Honour.

2 Gray's Inn Square, W.C.: 18 Sept., 1915.

To the Editor, JOURNAL R.I.B.A.,—

SIR,—It will no doubt be of interest to many members of the Institute to know of the recent publication by the Artists' Rifles of a Regimental Roll of Honour.

It is well known that upon the arrival of the corps in France in November last it was appointed by Sir John French as a training corps for young officers, and since that date over 1,600 men have been appointed to Commissions in regiments of the Regular Army, and in the new armies, etc.

The Roll, which is in a convenient book form, can be seen at the Library of the R.I.B.A., and copies may be obtained at a cost of 6d. each (to cover expenses of production) from any Orderly Room of the three Battalions, or by remitting the cost to the Officer

Commanding, Administrative Unit, Duke's Road,
N.W.—Your obedient servant,

GERALD C. HORSLEY [F.]

Architectural Organisation in the Future.

To the Editor, JOURNAL R.I.B.A.—

DEAR SIR,—As the great War develops, bidding fair (or foul) to be much prolonged, it becomes increasingly evident that architects, above the members of all other classes, have been most hardly hit and were least prepared to resist the blows. Had we read history aright, we ought to have had prevision of what was to happen when war should come, for we all know well that in times of war and times of pestilence there has always been complete cessation of building work—with the exception, certainly, of the Wars of the Roses, which were mere faction fights for the English Crown and in which the general populace of our country took so little interest that architectural development proceeded as if profound peace reigned.

But the present war has caught us napping, overmanned, split by dissensions, clogged by a surplus of administrative machinery in small groups scattered over the country, burdened by educational establishments far in excess of requirements, and without any great central reserve fund such as ought to have been accumulated in times of comparative prosperity. And the tendencies were for these defects to increase in number and magnitude, thus reflecting (as architecture itself has always done) the general condition of the body politic.

With the coming of the War dissensions at least are hushed temporarily, and if it be continued for another year or more there is hope that the good feeling which is being established by a common misfortune between even the extremists of former factions may lead to clear vision and a mutually sustained effort of re-organisation upon more sane and less extravagant lines, precluding the perpetuation of the defects enumerated above. The time for discussing details has not yet arrived. It may be that all the conflicts and discussions of the last twenty or thirty years may have to be put in the melting pot anew before the pure metal discloses itself. But two essentials are already apparent. It must be made impossible in the future for the profession of architecture in Great Britain to be followed by such a horde of untrained and half-trained men as in the past; and a large capital sum must be gathered in the hands of some central body for use in case of great emergency again arising. Beyond this, so far as Great Britain is concerned, it would be folly to go just now. To meet the needs of the moment, tiding over difficulties, collective and personal, as they arise, with extemporised amalgamation of certain existing organisations and the utilisation of others in such ways as are practicable, is all that can be done. It is the great and urgent work, and from the doing of it unitedly and wholeheartedly the rest will gradually evolve.

Outside Great Britain, however, things are ripening more rapidly. A great Imperialistic spirit has been aroused, and the time has fully come for the Royal Institute of British Architects to grasp all that is implied in the penultimate word of its title—that there are British architects beyond the confines of these islands. So far, all that has been done has been to recognise certain Colonial bodies as Allied Societies; but this, as it seems to me, is a most unsatisfactory way of meeting the requirements of the case, making them mere parochial hangers-on of the central body without the opportunities of close co-operation which are possessed by similar Societies in Great Britain.

Would it be too much to ask some of our leading members in Australia, Canada and South Africa to write as unofficially as this letter is written and let us know whether self-governing Branches of the Royal Institute could be founded with success in these great Dominions? The existing Charter provides for the existence of such Branches, but none have yet been formed; and each could be perfectly self-contained and free, acting under its own separate byelaws and governed by its own executive, controlling its own funds, granting its own Fellowships and Associateships within the limiting powers of the Charter only, and holding its own examinations and having its own Allied Societies if thought wise. Except for the bond of the Charter, there would be little to connect such branches with the central body at home, and there should certainly be no monetary obligation on either side; but I believe that the bond would, all the same, be as real and binding as that which exists between the Motherland and the Dominions has proved itself to be in this time of stress, to the lasting advantage both of architects and architecture throughout the whole of Imperial Britain.—Yours faithfully,

G. A. T. MIDDLETON [A.]

The Public Misconception of an Architect's Duties.

19 St. James' Street, Sheffield: 20 Sept., 1915.

To the Editor, JOURNAL R.I.B.A.—

SIR,—One hopes that the Council is not prepared to acquiesce in the remarks made by the Under-Secretary for War in the House of Commons which are reported in Saturday's *Morning Post*. If this view of the limitations of an architect's duties is to prevail, it hardly seems that architecture as a distinct profession can survive against the encroachments which are being made on it.

During the last few months I have heard this idea expressed publicly over and over again, viz., that "Architects must suffer during the present time, because no one can be building new houses, or churches, or other costly building schemes." In other words, that the designing of costly architecture is the only work which comes within the scope of our activity. Surely an architect's province is the whole of building operations irrespective of their character. The idea seems to have got thoroughly hold of the public mind

that all simple, straightforward work belongs to surveyors and civil engineers, and that the unfortunate architect is only to be allowed to put his oar in when so-called "artistic" considerations are to have a hearing.

If this tendency is to prevail, private practice will be undermined, and one wonders whether we shall not eventually have to go into trading as master builders in order to obtain a fair return for our skill and knowledge, and to regain that control of building operations which is, surely, our "métier."—Yours faithfully,

CHARLES M. HADFIELD [F.].

OBITUARY.

William Henry Lynn.

Mr. William Henry Lynn, R.H.A., died after a brief illness at his residence in Belfast, on 12th September.

He was born 87 years ago near Larne, Co. Antrim, where his father was Chief Coastguard officer. At an early age he was apprenticed to Sir Charles Lanyon, F.R.I.B.A., County Surveyor of Antrim. At that time his lifelong friend, the Right Hon. Robert Young, had recently completed his indentures and was in charge of the office. The late Sir Thomas Drew, R.H.A., was also a pupil. Samuel Lynn, his only brother, was with Sir Charles Lanyon for a time, but entered the late John Henry Foley's studio and did some notable work, his earliest commission being the pediment of the Belfast Custom House, mainly designed by Mr. W. H. Lynn. About 1850 the latter was clerk of works at the County Antrim Court House, one of Sir Charles Lanyon's designs in his favourite Italian style reminiscent of Sir Charles Barry.

After showing his artistic powers in several churches, Mr. Lynn was taken into partnership, and the firm of Lanyon and Lynn opened an additional office in Dublin. He competed for the new Carlisle Bridge with a remarkable design greatly admired by the public, but not successful. Many important competitions were undertaken in the "sixties." His design for the Houses of Parliament and Government Offices, Sydney, N.S.W., received first prize, but this noble group in the severe Gothic style which he affected was not proceeded with. He won the Chester Town Hall, 1864, and Barrow-in-Furness, 1879, competing also for municipal buildings at Plymouth, Worcester, Leicester, and Birmingham. In 1875 Lord Dufferin, then Governor-General of Canada, invited him to design the Chateau of St. Louis, Quebec, a splendid pile of Government offices to be erected at the citadel. His Clarke Hall at Paisley, 1878, is a good example of his unrivalled skilful planning. He won in competition the Belfast Free Library, opened in 1888.

His partnership with Sir Charles Lanyon and his son was dissolved before Sir Charles's death in 1889. Several fine buildings belong to this later period, including Campbell College, Belfast Harbour Office, Benburb Castle, and other country mansions. In 1910, when in his 82nd year, he showed that his mind and hand had not lost their skill by preparing the notable design for the extension of the Queen's College, Belfast, on the original plans of which he had assisted some sixty years before. Sir Aston Webb, C.B., R.A., the Assessor, awarded him the first prize, and the work was practically all completed a few months ago to the satisfaction of the University and the public.

The deceased was a very reticent and modest man; he never came before the public, and his friends in many cases had predeceased him. To the few who knew him intimately his loss will be a grievous one. His last work was in connection with the extension of Belfast Cathedral, of which he was the honorary architect on the death of Sir Thomas Drew, R.H.A.—R. M. YOUNG [F.].

William Robert Ware, LL.D., Professor Emeritus of Architecture of the Columbia University, who died on the 9th June at his home in Milton, Mass., in his eighty-fourth year, was elected Hon. Corresponding Member of the Institute in 1880. He graduated at Harvard in 1852. Until 1881 he applied himself to the teaching of architecture, at the same time working as an architect in Boston, Mass. During that period he was Professor of Architecture at the Massachusetts Institute of Technology and the Lawrence Scientific School. In 1881 he went to New York and joined the Faculty of Columbia, being retired as Emeritus Professor twelve years ago. Professor Ware was one of the commission that designed the buildings of the Pan-American Exposition. He was a Fellow of the American Institute of Architects and of the American Academy of Arts and Sciences. Harvard conferred upon him the degree of LL.D. in 1896. Buildings erected from his designs were the Union Passenger Station, Worcester, Mass.; the Episcopal Theological School Buildings, in Cambridge; Weld and Memorial Halls, at Harvard; and Harvard Medical School, Boston.

Henry David Davis, formerly senior partner in the firm of Messrs. Davis & Emanuel, of 2 Finsbury Circus, E.C., who died on the 30th June in his seventy-seventh year, was elected Associate of the Institute in 1872, Fellow in 1879, and was placed on the list of Retired Fellows in 1903. Among the works carried out by his firm were the blocks of chambers and offices known as Salisbury House, and Finsbury Pavement, in connection with the rebuilding of the Finsbury Circus Estate of the Bridge House Committee; several synagogues, including those in Upper Berkeley Street, W., Stepney Green, Maida Hill (Spanish and Jewish), and Hampstead; the City of London School, Victoria Embankment (gained in competition); Portsmouth Grammar School; Thorngate Memorial Hall, Gosport; the concert pavilion on the Clarence Esplanade Pier, Gosport; the Jewish Cemetery, Golders' Green; premises of the Imperial Continental Gas Association; extensive alterations to East Cliff Lodge, Ramsgate, for the late Sir Joseph Sebag Montefiore, and to Castle Hill, Englefield Green, for the late George E. Raphael; the Freeman's Almshouses in Ferndale Road, Brixton, for the City Corporation; almshouses in Mile End for the Jewish Charities; offices of the Jewish Board of Guardians in Middlesex Street, E.; London Joint Stock Bank, Wood Street, E.C.; the Yarrow Convalescent Home for Children, Broadstairs; the laying-out of the Kidderpore Estate at Hampstead; Meistersingers' Clubhouse, St. James's Street, S.W.; large blocks of workmen's dwellings for the East End Dwellings Co. at King's Cross, Bethnal Green, Whitechapel, and Columbia Market, and many large offices and warehouses.

George Henry Hunt, whose death occurred on the 17th August, at the age of sixty-four, had been a Fellow of the Institute since 1891. He served his articles (1867-72) with Messrs. Nelson & Harvey, of Whitehall, during this period attending the Schools of Art, South Kensington. From 1871 to 1878 he was a Student of the Royal Academy.

After a year's travel in France, Italy, and Switzerland, and another year as assistant in his father's office at Evesham, he started practice on his own account in April 1875, at 27 Regent Street, London. Among important early works were the mansion, lodges and stables at Great Alne, Warwickshire, for Mr. D. R. Radcliff; "Englethwaite Hall," Cumberland, for Mr. J. Thomlinson; "Horsegate Lees," Scarborough, and "Lindhead Lodge," near Scarborough, for Mr. T. T. Hodgkin; alterations and additions to "The Hall," Thornton-le-Street, for Earl Cathcart; "Sand Hutton," Yorkshire, for Sir James Walker, Bart.; the Municipal Buildings, Gloucester; alterations and additions to the Town Hall, a terrace of houses, and other residential buildings at Evesham, together with the workhouse and office buildings in Evesham and Hampton for the Evesham Board of Guardians. In conjunction with Mr. Thomas Verity he carried out the Scarborough Spa (1878-80), the Agricultural Hall additions (1882-3), and the Municipal Buildings, Nottingham (1884-8). He was the architect of the Nurses' Home, West London Hospital, Hammersmith (in conjunction with Mr. W. Harvey); of extensive alterations and enlargement of Institute Buildings for the Evesham Corporation; the School at Broadway, Worcestershire; premises at the corner of King William Street and Arthur Street West, E.C., etc.

Eric English, 2nd Lieut., 15th West Yorks, attached 18 Manchesters, whose death in action was reported in the last issue, was the younger son of Mr. C. W. English [Licentiate], and was born in 1888. He passed through the City of London School, which he left at the age of 19 to spend one year at the Royal Technical High School, Hanover, studying architecture. In 1908 he went to Paris, entering the Atelier Pascal. In January, 1911, he was received as a student into the Ecole des Beaux-Arts. He secured a number of medals and "mentions," and distinguished himself as a rapid and artistic draughtsman, designer and colourist. In 1910 he spent four months in Italy, whence he brought back a number of charming water-colours of architectural subjects, several of which have been exhibited at the Academy. Returning to England when the war broke out, he enlisted in the Royal Horse Guards, and received a commission last January. He was ordered to the Dardanelles in May, and was shot through the heart leading his men in the attack on the Turkish forces before Krithia on the 7th August.

George Lister Sutcliffe, of No. 17 Pall Mall East, who died on the 12th September, aged fifty-one, was elected Associate in 1891, and Fellow in 1911. Mr. Sutcliffe was articled in 1880 to his father, Mr. John Sutcliffe, architect, of Todmorden, and after a number of years as chief assistant in his father's office was taken into partnership in 1895. The firm started an office in London in 1902, and in 1906 the partnership was dissolved, and Mr. G. L. Sutcliffe continued the London practice on his own account. Among buildings for which he was responsible were schools at Todmorden and Hebden Bridge; Fever Hospital, Todmorden; Mission Church, Hebden Bridge, and many houses, factories and business premises in the same neighbourhood. He was the architect of several houses at Dartnell Park and Highfield, Byfleet; of the additions to West Hall, Byfleet, and to Willoughby House, near Rugby; Rookery Park, Yoxford; Tinivelli, Caterham (including the formal garden); also of new houses at Chalfont Road, Bucks; Poling, near Arundel; Mayfield and Horsted Keynes, Sussex; Cove, Devon; Redhill,

Somerset; Leatherhead and Woldingham, Surrey. As architect to Co-partnership Tenants, Ltd. he was responsible for a large number of residential and other buildings in the Hampstead, Ealing, and Liverpool Garden Suburbs. He prepared the plans and designs for twenty-eight houses at Finchley for Oakwood Tenants, Ltd.; the Pixmore Workmen's Club and Institute, Ridge Avenue, Letchworth; he laid out 14 acres in the Wavertree district for Liverpool Garden Suburb Tenants, Ltd., in association with Co-partnership Tenants, Ltd., of London, upon 180 acres, part of Lord Salisbury's Liverpool estate; he was the author of a scheme for the Wrexham Tenants, Ltd., to build houses in a garden village planned by him upon a site of 190 acres adjoining Acton Park, Wrexham; he was the architect for the development of 66 acres of the Brentham Garden Suburb, Ealing, where 500 houses were built in 1901-14 for Co-partnership Tenants, Ltd.; of houses for Messrs. Debenhams, Ltd., at Eastcote, Ruislip; a large block of residential and co-operative housekeeping flats in the "collegiate" style, Hampstead Garden Suburb; and the Brentham, Ealing, Institute Hall and Hostel for Ealing Tenants, Ltd. Mr. Sutcliffe was the author of "Sanitary Fittings and Plumbing" (Builder "Student Series"); editor and joint-author of "Modern House Construction"; editor of *The Modern Carpenter, Joiner and Cabinet Maker*. In 1895 he was awarded a consolation prize of £10 in the R.I.B.A. competition for an essay on "The Influence of Literature on Architectural Development."

LEGAL.

L.C.C. Schools: District Surveyor's Supervision.

Daubney v. Akers & Co., Ltd.

This case was heard in the Divisional Court before the Lord Chief Justice, Mr. Justice Darling, and Mr. Justice Lush, on the 20th July, 1915. The preliminary proceedings in the Police Court before Mr. C. R. Gill were reported in the *JOURNAL* for 21st August 1914, page 656, and 6th March 1915, page 215.

The London County Council contended that their schools were exempt from the supervision of the District Surveyor as regards construction, and that as they were the body which could grant relief from the operations of the London Building Act 1894 as regards the width of streets, the projection beyond the general line of buildings, the height of buildings, &c., it was not necessary for the District Surveyor to concern himself with these points. They also contended that an addition to a certain infants' school at Southwark Park which did not increase the school accommodation was a new building within the meaning of the Education Administrative Provisions Act 1911. They, therefore, refused notice to the District Surveyor, and also refused to pay him the statutory fee on completion of the works. The Magistrate ruled against the Council on both these points and inflicted penalties and costs in the District Surveyor's favour.

The Council appealed on the question of the payment of the fees. Mr. Bodkin appeared on behalf of the Council, and Mr. Daldy on behalf of the District Surveyor. The appeal was dismissed with costs.

The LORD CHIEF JUSTICE gave judgment as follows:

This appeal arises upon a case stated by the learned Magistrate in respect to a claim by a District Surveyor under Section 145 of the London Building Act 1894, for fees under Schedule 3 of that Act. His claim is that he is entitled to fees in accordance with the scale prescribed by the Statute in that Schedule, and the Magistrate held in his favour, and the question is whether the decision of the Magistrate is right.

Mr. Bodkin, on behalf of the appellants, has argued that the

District Surveyor was not entitled to any fees under the Third Schedule of the Statute; further, that the school was a new building within Section 3 of the Education Administrative Provisions Act of 1911; and further, that if this was not a new building the District Surveyor was not entitled to receive fees in respect of alterations and additions under Schedule 3 of the Act of 1894, because it is said that he had no duties to perform.

The first point which arises is whether or not Mr. Bodkin is right in his contention on behalf of the appellant that this school is a new building within the Education Administrative Provisions Act of 1911. The argument is that that Act of Parliament has really introduced into Section 3, or at any rate into that Statute, the various statutory definitions and provisions regulating the determination of whether the work done was a new building or whether it was an addition or alteration or other work to a building. In my judgment there is no difficulty really in deciding that question. It must be a question of fact in each case, not depending absolutely upon the facts as proved, but a question of fact to be determined having regard to the provisions in the Statutes; and I am unable to find anything in the Statutes which would prevent the Magistrate coming to the conclusion as a matter of fact in this case that this was an addition or alteration to a building, and not a new building. It has been argued before us that there was no evidence upon which he could come to such a conclusion; but I cannot accept that contention. It seems to me that there was evidence upon which he could arrive at it. The question is not whether this Court would have arrived at the same conclusion; the question is whether upon the facts found by the Magistrate we can say that he had decided in violation or contravention of Statutory provisions, and whether we can say that assuming he properly directed himself as to the interpretation and the construction of the various sections of the Act of Parliament to which our attention has been called, he has come to a wrong conclusion on the facts.

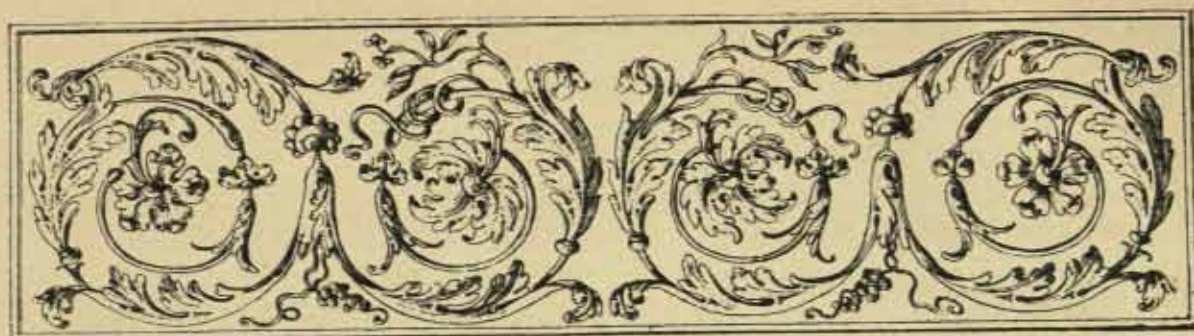
I am unable myself to arrive at such a decision, and I think therefore that there was evidence, and that his decision of fact must stand that this was a work which was in the nature of an addition or alteration to a building, and not a new building. If that is so, the question which has been so much discussed before us as to the true meaning and effect of Section 3 of the Education Act of 1911 falls away, because it is not contended, and cannot be contended, that Section 3 has any application to the case of an addition or alteration to a building; it only applies in the case of new buildings, and therefore it is unnecessary for us to proceed further with the discussion of the points raised, and points undoubtedly of some difficulty and complexity, on the true meaning of Section 3 of the Act of 1911. It is further admitted, and must be admitted in this case, that a notice must be served upon the District Surveyor. That is not in dispute. It is assumed for the purpose of this case at any rate, I will not put it higher, that such a notice must be given under the Act. The contention on behalf of the respondent is that if the notice has to be given the District Surveyor is then entitled to the fees according to the scale prescribed in Schedule 3 with reference to addition or alteration to a building. On the other hand, Mr. Bodkin has contended that notwithstanding that a notice has to be given there is really no work to be done by the Surveyor, and that consequently the Surveyor is not entitled to fees. It was put at one time that there was no real work, no responsible work, and I think the last phrase used was that there was no substantial work to be done by him.

In my view in this case, having regard to the position of the buildings under discussion, and bearing in mind that the notice had to be given, there were duties imposed upon the District Surveyor. It is not necessary for us to determine whether those duties were light or heavy; it is sufficient that there were duties imposed upon him. The giving of a notice entailed at any rate the doing of something by him; and without going through the various sections which the Surveyor would be bound to give consideration to—that is, as to the duties which are imposed upon him by virtue of the sections—without going through them and enumerating them, it appears to me quite clear that there were things to be done by

him; and once I have come to that conclusion, it appears to me to follow that he is entitled to his fees in this case. I think that the cases to which our attention has been called are really not in my judgment in conflict. The decision in Watson's case was really a decision of the Court to the effect that in that case it came to the conclusion that notice had to be given, and at the same time that it did not necessarily follow that fees would have to be paid to the District Surveyor. It was not necessary for the Court to decide it in that case, and it did not really decide it. I doubt very much whether Willis's case helped us, but the latter case of Galbraith & Dicksee is much nearer the point. That was the case decided in 1910 by the Divisional Court. I think the effect of that decision is that where the notice is given and there are duties to be performed, that then the fees are to be paid. I desire to guard myself against it being thought that I am deciding in this case that if the case occurs of a notice having to be given which imposes no duty whatever upon the District Surveyor, that he could merely by reason of the notice claim his fees and recover them at law. I do not think it necessary to decide it in this case, and I do not decide it. What I do decide is that I am satisfied that in this case, and upon the notice which had to be given in this case, there were duties upon the Surveyor, and consequently that the Surveyor was entitled to recover his fees. In the circumstances I come to the conclusion that the decision of the learned Magistrate was right, and that the appeal must be dismissed.

Mr. JUSTICE DARLING concurred, and added: I agree with the decision which my Lord has arrived at and the reasons which he has expressed for it. I only desire to add this. I did feel for a considerable time during the argument that it was difficult to see the advantage of having a building like this decided upon, and the plans for it arranged for, and the construction of it—I do not say the actual putting together of it, but the form of the construction and so on—decided on and arranged and settled by the Board of Education and by the London County Council, of course acting upon the advice of skilled architects and surveyors, and then afterwards making it possible for a District Surveyor to call upon them to do something or another differently from the way in which they were arranging to do it. But I have been satisfied in the course of the argument that there really are things which the District Surveyor may properly object to, even after these plans and specifications, and so on, have been adopted, and which it would be his duty as acting for the particular district to bring to the notice of the London County Council, and his duty to insist upon the work being done so as to get rid of the objections which he might have raised; and I think I can see in modern legislation that that may well have been the intention of the Legislature, that it has not merely occurred by accident, because since the County Council was created there has undoubtedly been a movement in London for giving greater independence to districts, the creation of smaller municipalities, the taking care that the parts should not be sacrificed to the whole; and I think it may reasonably have been provided, and intentionally provided, that the amenities of a district should not be neglected in the putting up of such a school as this by a central authority; that everything should not be done according to one pattern, quite regardless of the interests of the particular locality, and it may well be that provisions relating to the locality itself might not be sufficiently taken notice of by a central authority, and that the District Surveyor may therefore have a very useful task to perform in calling attention to deviations from the convenience of the district. For that purpose it would be necessary or proper at all events to give him notice of what is going to be done. That would call his attention to the fact that the district was going to be interfered with in some way. He would then, having received this notice, if it were worth his attention, attend and receive a fee. I quite agree with what my Lord has said—that we are far from deciding that simply because he receives a notice he has a right to claim a fee, although he may not have done anything nor may anything have required even a moment's attention on his part.

Mr. JUSTICE LUSH also concurred.



The Godwin Bursary Report, 1914.

CONTINUATION SCHOOL BUILDINGS IN GERMANY AND AUSTRIA.

By MARTIN S. BRIGGS [A.], Godwin Bursar.

(Continued from page 500.)

My last example of a new Trade Continuation School is the largest in Europe and may reasonably be regarded as a marvellous building. The Central Trade Continuation School at Vienna (see Figs. 32, 33, 34, and 35) has been illustrated in more than one Austrian periodical, and a plate of the exterior forms the frontispiece to Messrs. Best & Ogden's "The Problem of the Continuation School" [P. S. King, London, 1914: price 1s. nett]. It was erected in 1909-11 from the designs of Herr Rudolf Hammel, himself a Trade-School Master. The cost of the building only was £160,000, of the equipment £25,000, and the architect's fees amounted to £2,500, making a total expenditure of £187,500. The site was originally occupied by a district abattoir, has an area of 11,500 square yards, and an estimated value of £35,000. Every inch of the site is covered with buildings. The north and south frontages are each 420 feet long, the east 259 feet, and the west 239 feet. The position is not particularly central, nor particularly well served by trams and trains, but it adjoins a station on the Girdle Railway, and the main east-and-west thoroughfare passes within a few minutes' walk, with many lines of trams. Considering the area required, this is perhaps as central a site as could be found. The neighbourhood is somewhat dingy, but is being improved, and a magnificent new fire-station has just been erected on an adjoining site. The flattering view of the exterior (Fig. 32) is taken from a little public garden outside the Girdle station and bordering on the Canal. Six storeys are fully utilised (including the basement), and the seventh, in the roof, is partly occupied, though a portion of the roof is flat and is used as a roof-garden or promenade.

The whole block accommodates 5,200 students simultaneously, but this figure assumes that the assembly hall, recreation-rooms, baths, libraries, &c., are all occupied at once, a very unlikely state of affairs. The whole building is occupied by Compulsory Continuation scholars, except a portion of the west end, where there is a Women's Industrial School with 576 students. Of some 9,000 Continuation scholars whose names are now on the books only 32 are girls, employed in hairdressing and other skilled trades. The last report on the Continuation Schools of the city gives the total number of scholars as 54,919, of whom 9,543 are girls. Of this number 38,052 boys and 9,149 girls are engaged in skilled trades, so that only about a fifth are housed in the new school. The remainder are taught at a great number of district centres, and the tailors have a special school of their own.

The accommodation of the new Central School is as follows:

Basement quadrangles.—Two large workshops for the metal trades, 1 for joiners, 1 workshop each for smiths, blacksmiths, carriage-builders, furniture-makers, grinders, watchmakers; a laboratory for electricians; 16 smaller rooms for teachers, storage of material, etc., making 25 rooms in all.

(A reference to the plan will show that the building is planned round three quadrangles [Fig. 33], the floors of which are utilised for the large workshops, etc., above mentioned, all of which are top-lit.)

Basement proper.—3 workshops for printers, 1 each for confectioners and glaziers, class room for joint use of glaziers, stucco-workers and gilders, 1 drawing classroom for joint use of last two trades, and 1 room for modelling. Also 5 rooms containing baths, 4 gymnasiums, telephone exchange, kitchen, and a large number of store-rooms; together with the heating, ventilating and electric plant; making 42 rooms in all.

Ground floor.—15 administrative rooms, 3 libraries, 2 large exhibition rooms, 1 refreshment-room for Scholars' Association gatherings, 18 rooms for caretakers and cleaners, 1 drawing-classroom

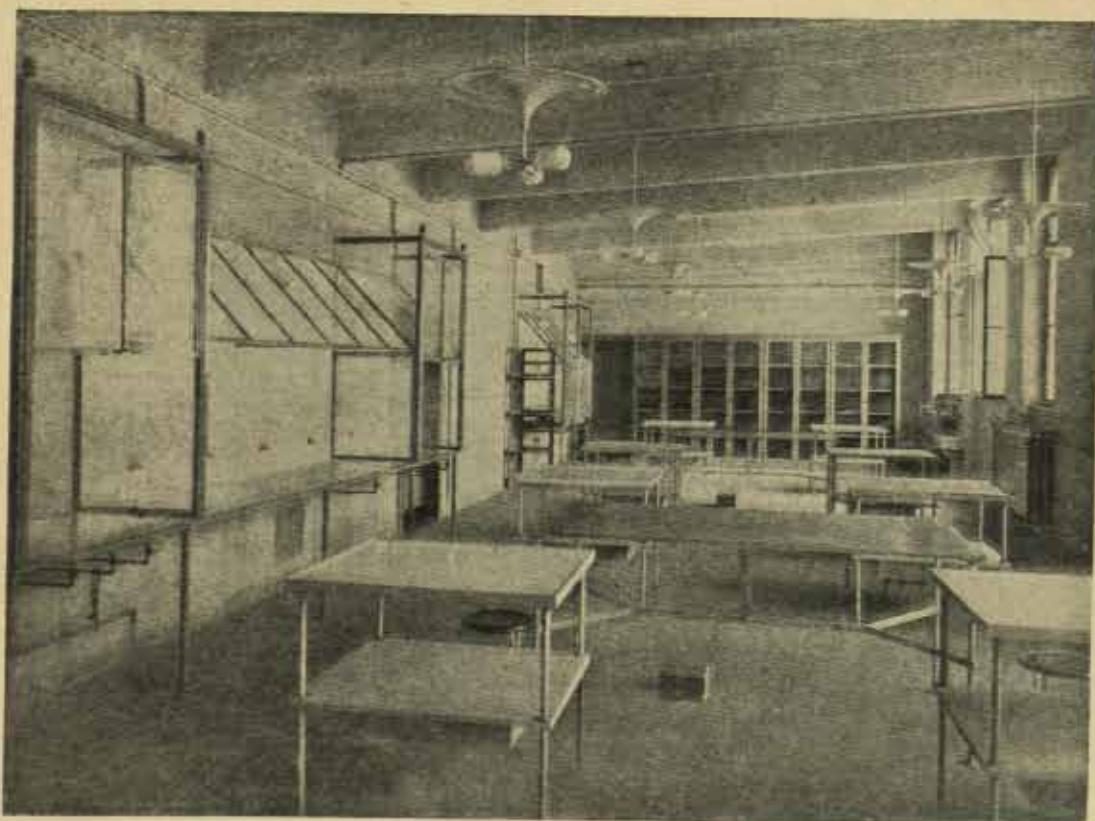


FIG. 34. TRADE CONTINUATION SCHOOL, VIENNA: GENERAL CHEMICAL LABORATORY.

and 1 workshop for bookbinders; together with 8 rooms for the Women's Industrial School; making (with minor rooms) 52 rooms in all.

First floor.—1 drawing-classroom and 2 lecture-rooms for "fine mechanics"; 2 drawing-classrooms and 5 lecture-rooms for blacksmiths; 8 drawing-classrooms and 1 science-classroom for mechanics; 2 classrooms for brushmakers; lecture-room for motor engineers; various small rooms for teachers and apparatus; also 9 rooms for the Women's Industrial School; making 49 rooms in all.

Second floor.—8 drawing-classrooms and 6 lecture-rooms for joiners; 2 drawing-classrooms and 3 lecture-rooms for carriage-builders; 2 drawing-classrooms and 4 lecture-rooms for glaziers; 1 lecture-room and 1 classroom for comb-makers and fan-makers; various small rooms for teachers and materials; also 9 rooms for the Women's Industrial School; making 49 rooms in all.

Third floor.—7 drawing-classrooms and 1 lecture-room for mechanics, 3 drawing-classrooms and

6 lecture-rooms for electrical workers; 1 drawing-classroom and 2 lecture-rooms for piano and organ makers; 1 drawing-classroom and 5 lecture-rooms for grinders; also savings bank for scholars; various small rooms for teachers and materials, together with 9 rooms for the Women's Industrial School; making 49 rooms in all.

Fourth floor.—3 drawing-classrooms and 1 lecture-room for watchmakers; 5 drawing-classrooms for furniture makers and decorators; 8 drawing-classrooms and 4 studios for painters, grainers, and varnishers; laboratories for chemistry and physics, with the usual subsidiary rooms; classroom for chemistry; 2 general laboratories; and 2 recreation rooms; together with small rooms for teachers and materials; making 54 rooms in all.



FIG. 35. TRADE CONTINUATION SCHOOL, VIENNA: WORKSHOP FOR METAL TRADES.

Roof, or fifth floor.—Rooms and greenhouses for the gardeners' classes; studio, laboratory, and dark-room for the photographers' classes; greenhouse and winter-garden for the Scholars' Association; making 21 rooms in all.

There are thus in the whole building 341 rooms, of which 37 are used by the Women's Industrial School.

The rooms in this school are unsurpassed, whether in planning, lighting, or equipment, by any others I have seen. Their disposition is simple and straightforward. Except in the suite devoted to the gatherings of the Scholars' Association, there is a complete absence of decoration. Externally a similar austerity is to be seen, the elevations being treated in a dingy grey rough-cast, with practically no relief, and the mansard roof covered with dark red tiles.

Having briefly traced the evolution of an elaborately equipped Trade Continuation School from the simplest beginnings, it still remains to mention other expedients by which a small district Trade School may be contrived in a larger block of educational buildings devoted to more general purposes. Various experiments have been tried in Munich, and of these four at least are worthy of notice. I have already remarked that a system of scattered district schools finds favour with the authorities in preference to a great central institution.

A good example is to be seen in the "Gartenbau" (garden-building) at the rear of the Luisenstrasse girls' school. (See fig. 36). Here a small and entirely self-contained Continuation School has been

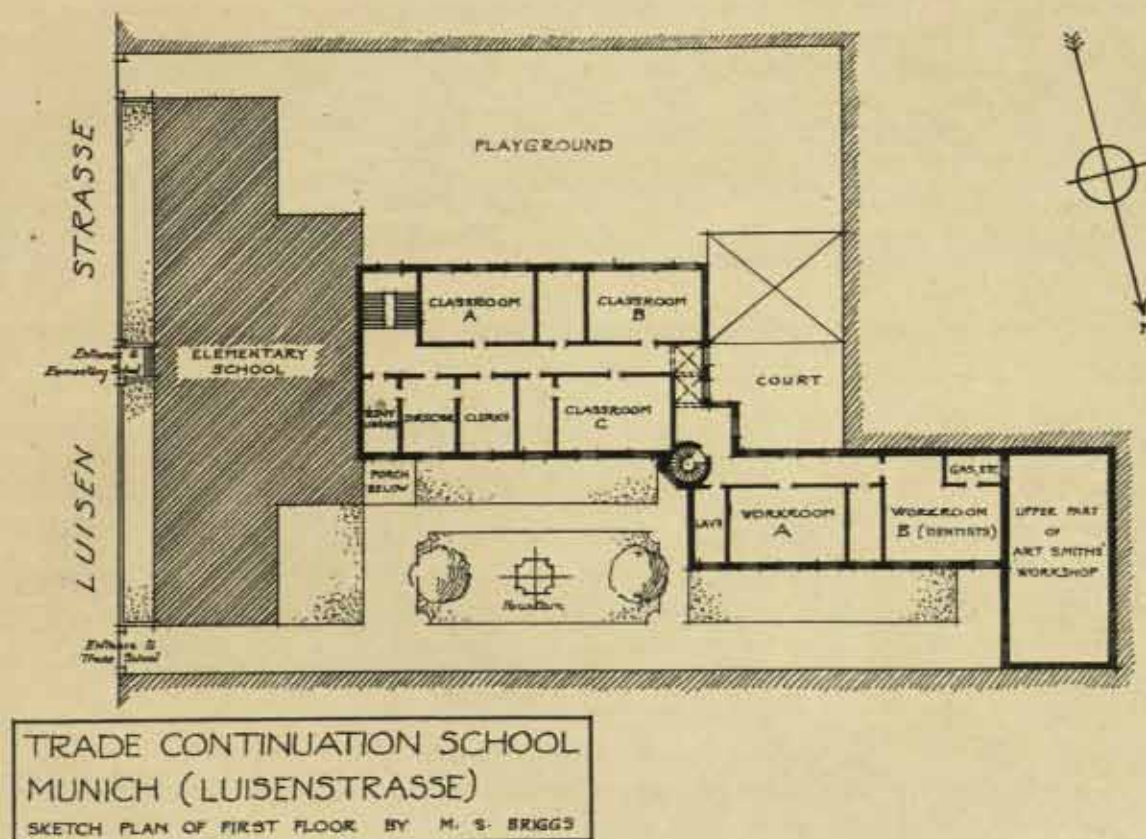


FIG. 36.

planned with an excellent north light to the majority of the rooms. The cost was £24,000, and the building was erected in 1899-1900 from the designs of Professor Theodor Fischer. At the present time there are about 1,650 names on the books, of whom nearly 1,000 are Compulsory Continuation scholars, about half the remainder being voluntary day scholars, and the other half voluntary evening scholars of an advanced type. The Continuation trades taught in this school comprise bricklayers, masons, carpenters, plasterers, sculptors, dental mechanics, bakers, jewellers, gold and silver smiths. In the basement, besides heating apparatus, etc., are 5 large workrooms for bricklayers, masons, carpenters, staircase-makers and plasterers respectively. On the ground floor, besides apartments for the caretaker, and various small rooms for teachers, are a studio for sculptors, a drawing-classroom for engineers, a room for art metalwork, and 1 other studio. On the first floor (see plan) classrooms "A"

and "B" are used jointly by jewellers and dentists, classroom "C" is used by joiners, workroom "B" is used for dentists' practical mechanical work and has a small room containing anæsthetic apparatus. There are also sundry rooms for administration and teachers as shown. On the second floor are 5 classrooms and 5 small teachers' rooms; on the third floor 4 classrooms, 2 small teachers' rooms, and a studio for sculptors. The art-smiths' workshop shown on the plan is only one storey high, and is not used by Continuation scholars. This school is neither particularly remarkable nor very modern.

In the northern part of Munich is the large Elisabethplatz School, built in 1900-2 by Professor Theodor Fischer, at a cost of £35,000. It was originally destined solely for the purposes of an Elementary School, but in 1905 it was decided to adapt a part of it for Continuation classes. The latter use portions of the lower three floors, the two top floors being occupied solely by Elementary scholars. The following trades are taught here: coppersmiths, engineers, mechanics, locksmiths, joiners, tailors, and furriers. Workshops for the metal trades and joiners are provided in the basement, but they are shared with the eighth year manual classes of the Elementary School, and are low, dark, and ill-ventilated. The gymnasium is also used jointly. This building cannot be regarded as anything but a makeshift.

In the Westenriederstrasse, situated near the commercial centre of the city, is another block of school buildings where several Continuation classes are quartered, built in 1900-1 from the designs of the City Architect, Herr Rehlen. The rooms are grouped round the four sides of a courtyard, with an internal corridor. Two sides are occupied by the Trade Continuation School, the remaining two by a Commercial School. There are two distinct entrances, but the heating apparatus is arranged for the whole block. In the Continuation School are held classes for the decorating and glazing trades only; but of 700 odd scholars using the rooms only about half are Continuation scholars, the remainder being more advanced students. Though rather dark and shabby, both inside and outside, the school is admirably equipped and has a fine entrance vestibule.

The fourth Munich example is at the Gotzingerplatz School in the southern quarters of the city, designed by Baurat Grässel and opened in 1906. This is a very large Elementary School in which 3 classrooms and 2 workshops are provided for the sole use of the Continuation scholars.

In Düsseldorf, where Trade classes will eventually be concentrated in two large central schools (see p. 466), Continuation scholars have been allotted a section of a modern Elementary school and a new Realschule respectively. The former is situated in the Färberstrasse, and is only two or three years old. The trades taught here are smiths, moulders, pattern-makers, founders, tinsmiths, dental mechanics, electricians, gas-fitters, plumbers, and gardeners. Most of the teaching is theoretical, but workshops for the metal-trades are provided in the basement and are used jointly with the eighth year manual classes. Ingenious contrivances have had to be invented to counteract the difference in height between boys of 13 and 18 who may have to use the same work-benches.

At the new Realschule in Ellerstrasse a wing is set apart for Trade Continuation scholars, and here are taught the cooks, bakers, confectioners, butchers, and waiters.

Last among the Trade Continuation Schools visited on my tour must be mentioned the huge Kurfürstfriedrichschule at Mannheim, a large and thriving city on the Rhine with a population of 220,000. This was designed by the City Architect and erected in 1904-6 at a cost of £75,000. The buildings are grouped round a quadrangle, the four sides being approximately divided into an Elementary School, a Commercial School, a Trade School, and accommodation for 4 caretakers (the latter portion being only half the height of the remainder). In the Trade and Commercial sections a large number of Continuation scholars are educated.

From the examples cited and described above, it will be seen that the Trade Continuation School building in Germany is still in a state of development, and that it will not be for many years that every town has its Continuation scholars separated from other students studying similar subjects in a different way. But that is the end towards which the present lines of development are pointing.

V.

THE DETAILS OF TRADE CONTINUATION SCHOOL BUILDINGS.

So far I have only dealt generally with the accommodation required in a modern German Trade Continuation School, and from the various plans illustrated one may learn how that accommodation has been provided. It is now necessary to enter into further detail as to the various rooms and their design as affected by their peculiar uses, and also to consider such aspects of the problem as sanitation, etc. These questions may be grouped under the following heads: (a) Rooms used for teaching; (b) Other rooms; (c) Cloakrooms, sanitation, and minor features.

(a) ROOMS USED FOR TEACHING.

Classrooms.—An ordinary classroom in a Continuation School need only differ from an ordinary Elementary classroom in the matter of size, the average age of the Continuation scholar being 15-16, of the Elementary scholar 10. After comparing a long series of measurements taken in German Continuation Schools, I am unable to give any accurate figures, so great is the diversity. But the average sizes appear to be:—for 30 scholars, 28 feet by 21 feet; for 35 scholars, 29 feet 6 inches by 23 feet; for 40 scholars, 36 feet by 23 feet. The usual number of scholars per classroom is 30 or 35. The size of desk used is even more fluctuating, dual or triple desks being the favourite patterns.

Drawing-classrooms are larger than the ordinary type, a common size being 36-40 feet by 23 feet. The usual size of drawing-desk allows 3 feet 6 inches by 2 feet 1 inch of desk-space per head. Some authorities consider that all ordinary classrooms in Continuation Schools should be designed as drawing-classrooms.

Many classrooms have a dado of linoleum with a wood fillet above. Glazed brick dados do not seem to have yet made their appearance in these schools. The floors are almost always covered with linoleum, even when wood-block flooring is laid underneath. The space allowed for the teacher in ordinary classrooms averages about 6 feet wide. In one case, at Karlsruhe, a new type of rostrum is to be seen, constructed of hollow brickwork instead of the usual timber framing. The height of classrooms approximates to English practice, and is usually between 12 feet and 13 feet. The proportion of window-area to floor-area varies from $\frac{1}{4}$ to $\frac{1}{6}$. The air-space and floor-space per scholar is also very variable. In one typical school visited the figures were 260 cubic feet and 20 square feet respectively. In some of the newer schools the windows extend to the full height of the room, but this is by no means universal. Double windows are largely used. At least one blackboard is found in every classroom, usually in two sections to slide, less frequently to fold. One authority advances the theory that for Continuation scholars it is advisable to provide separate chairs, which promote a feeling of independence. It is said that a boy of 17 does not like to sit on a bench. In two schools visited chairs were found with dwarf backs only 6 inches above the seat. Occasionally ordinary classrooms are equipped for lantern-lectures, but usually these take place in the science-room (see next paragraph). The huge school at Vienna has provision made for lectures in every classroom. At Aussig the drawing-classroom for shipbuilders has drawing tables 9 feet 1 inch by 2 feet 2 inches, supported on stiff trestles, and has also a prepared floor in another room on which full sizes of details may be worked. In the former room is a very large special blackboard, measuring 16 feet 3 inches across its two widths.

The storage of drawing-boards has to be seriously considered in Continuation schools. Sometimes, as at Bonn, a large alcove is devoted to this object. More usually recesses are contrived between the flues in classroom walls, as at Stuttgart, or cupboards are fixed. The size allowed for each board appears to be 26 inches by 21 inches. The normal plan is to provide every scholar with a separate key, but the teacher generally has a master-key. In one case the lockers were unlocked in groups by the teacher's key only. In some schools cupboards are also provided for T-squares, &c.

Most classrooms are fitted with a hand-basin or sink, varying in size from a very small white-glazed

basin to a large sink set in a recess and surmounted by an arch of glazed tiling. This practice must involve a great many concealed drains in the walls. (See also paragraphs on "Cloakrooms" and "Teachers' Rooms.")

Science Classrooms.—Almost every German Continuation School has at least one room for teaching chemistry and physics. In a Commercial School the teaching is not specialised, and in certain cases already quoted the only scholars using the room are chemists who are grouped with the Commercial section. In the Trade Schools, however, science is applied to all branches of industry and there is often a suite of lecture-rooms and laboratories for the teaching of chemistry, physics, and electricity. The number of the rooms varies with the size of the school.

In general arrangement there is little difference between these and similar rooms in our English Secondary or Technical Schools. The lecture-room floor is usually stepped in the familiar "theatre" form, the tiers being of wood and the gangways being covered with tiles or linoleum. At Aussig the floor is of deal boarding laid sloping.

The room is almost invariably fitted with a lantern of the latest type, and the windows are darkened by curtains of black stuff in grooves, operated by a handle controlling two windows at once. At least one room for preparing experiments is required, and is best placed adjoining the lecture-room, and connected with it by means of a fume-cupboard in the form of a serving-hatch, behind the demonstration-table. The shelf of the fume-cupboard and the top of the demonstration-table may be covered with white glazed tiles. The demonstration-table must be fitted with water, gas, and electricity. A blackboard is also required in this room, and a lantern-screen to drop from above it.

In the larger schools are separate laboratories for chemistry, physics, etc., but the lecture-room is often used in common. Besides the preparation-room above mentioned it is desirable to have a room for apparatus (generally known in England as a "balance-room"). Occasionally this is combined with the study for the science-teacher.

In a school at Düsseldorf is a science-room with desks or benches adaptable either for writing notes at lectures or for making practical experiments.

Among the buildings described in this book that at Vienna has by far the most elaborately equipped rooms for science teaching. The tables in the laboratories (see fig. 34) resemble surgical operating-tables in appearance, being constructed of light tubing enamelled white, with tops covered with white glazed tiling. The demonstration-table has a plate-glass top on a white ground. The seats in the chemical laboratory are very small stools constructed of metal tubing enamelled white, with circular deal tops also enamelled white.

Trade Workshops or Workrooms.—These rooms occur only in Continuation Schools where trade teaching is practical. Theoretical trade teaching is carried on in ordinary classrooms or in drawing-classrooms according to the nature of the trade. The workshops for practical work do not differ in any marked degree from those in English technical schools where the education is voluntary. But it must be remembered that there are also voluntary technical schools in Germany, where fees are paid, in addition to the Trade Continuation schools now under consideration. The essential point is to describe the minimum requirements of a workshop in a Continuation School, where economy is always an important factor.

At Strassburg the only workshop provided is for the printing-trades, but in most towns where a small school is established the first two workrooms required are for the wood-trades and the metal-trades respectively. In the first can be taught, by a little contriving, carpenters, joiners, furniture-makers, wheelwrights, carriage-builders, etc.; in the second, moulders, mechanics, smiths, engineers, coppersmiths, grinders, tinsmiths, etc. Almost equally necessary is a large and well-lit studio or workroom for decorators, painters, upholsterers, etc. This is most conveniently placed on an upper floor, often in the roof. In most towns a room is provided for the trades that the Germans call "fine mechanics"—*e.g.*, watchmakers, dental mechanics, jewellers, opticians, goldsmiths, cycle and motor

engineers. Next in importance is the workshop for "installations" (gas, water, and hot-water fitting, plumbing, and electric wiring), and another for sculptors, modellers, and plasterers. In large schools one sometimes finds a room where bricklaying is taught. If more than one Trade Continuation School is provided in each town (and this appears to be desirable in all towns with a population of over 200,000) it is advisable to reserve rooms in *each* centre for the joiners and the mechanics, and to place the remaining trades in one centre *only* as is found convenient. This is the principle adopted at Munich. Another possible subdivision is to have one school for the building trades, another for the engineering trades, a third for the printing and kindred trades, and a fourth for all the remainder. At Düsseldorf there is a triple division into "heavy" trades (see p. 467), "light" or manual trades (p. 514), and the trades connected with the preparation and serving of food.

The equipment and design of typical engineering workshops may be seen from the illustrations accompanying this Report. Those at Aussig are remarkably complete, those at Vienna are magnificent, but are far too elaborate for any save a city of the first rank, and of those described here the most useful are the examples at Munich, which are on a reasonable scale for an ordinary large town. The floors are frequently paved with pine blocks, as used for street-paving. The advantage of placing engineering workshops in a separate wing or detached building, or in the courtyard of a higher building as at Vienna, is that additional height and top-light may be obtained thereby. In three respects these workshops appeared to me to be superior to the average type as seen in England. The floors are kept absolutely clear of any obstruction, so that they may be thoroughly swept each night. All machinery is protected as far as possible, the belting, etc., being shielded by wire cages, and safety clutches, etc., being installed where practicable. Smoke and other fumes are completely eliminated, the smoke of the smiths' forges being sucked away downwards by an exhaust.

The same features appear in the arrangement of the joiners' workshops, where various devices are used to keep the floors absolutely clean. Timber in actual use is stored in a "cradle" of light steel joists, which is attached to the ceiling. It need hardly be remarked that this presupposes a specially rigid floor above. All tools are hung in vertical cases fixed on the wall or against the pillars supporting the roof. Within a couple of minutes of the electric bell ringing at the close of the "period," every bench is cleared except for shavings, and a few minutes later the cleaners leave the whole workshop speckless.

The room for "installations" is usually well equipped with sanitary appliances, etc., connected to a water supply and in actual working order, besides the benches and apparatus for plumbing work, etc. A short length of 9-inch brick wall is frequently provided in the middle of the floor, 6 feet or 7 feet high, on which electric wiring can be practised.

The studios for painters and decorators are in no way remarkable. In the larger schools a series of cubicles with bare plastered walls is provided, in which practical wall and ceiling decoration may be carried on.

Most schools have a room or rooms for photography in the roof, sometimes connected with the printing department and sometimes adjoining the chemistry-rooms.

At Vienna is a large and well-equipped kitchen or bakery for confectioners with elaborate stoves and a range of electrically-driven machinery. But normally bakers and confectioners, like saddlers, shoemakers, watchmakers, glovemakers, brushmakers, weavers, tailors, and waiters, can be taught all necessary practical work in a room of ordinary shape and design, no machinery or heavy plant being required. In the case of various minor trades (coachmen, chimney sweeps, etc.) the vocational teaching, though applied to the scholar's particular craft in the most ingenious way, is bound to be theoretical and may be given in any ordinary classroom with cupboards and shelves for the necessary equipment.

In Munich gardeners receive practical tuition at an open-air school, and butchers in one of the municipal abattoirs.

With regard to the equipment of these numerous trade workshops and classrooms, a word of explanation is necessary. In any good German or Austrian Trade Continuation School the number of valuable models and specimens is really marvellous. To take an instance within the writer's own knowledge, one may cite timber as used by the joiners and the wood-working trades. The collection of timber specimens in either of the two principal schools in Munich would do credit to a good museum in a large town. Everything connected with every trade seems to be represented, and nothing is dusty or out-of-date. The same applies to all branches of the metal trades. Similarly, in the painters' and decorators' rooms, besides the usual casts and models, there are stuffed birds in natural surroundings, and even fresh flowers (supplied daily from the municipal gardens). But it would need an



FIG. 37. COMMERCIAL CONTINUATION SCHOOL, ELBERFELD: TEACHERS' COMMON ROOM.

educational expert to praise these exhibits as they ought to be praised. It is enough to say that here German thoroughness is seen at its best. The models in the chimney-sweeps' classroom at Munich alone explain the whole system.

These numerous exhibits are very largely the gift of local manufacturers, who see that their share in any advantage to be gained from a Trade Continuation School depends partly on keeping the scholars thoroughly informed as to local conditions and industries. Hence, in considering the figures for "equipment" quoted on various occasions during this Report one must remember that an enormous amount of valuable specimens and models (including often the cases in which they are housed) has cost the School authorities nothing.

But workshop-training, as I have already said, is still on its trial in the Continuation School, and it remains to be seen whether it will become the rule throughout Germany and Austria within the next

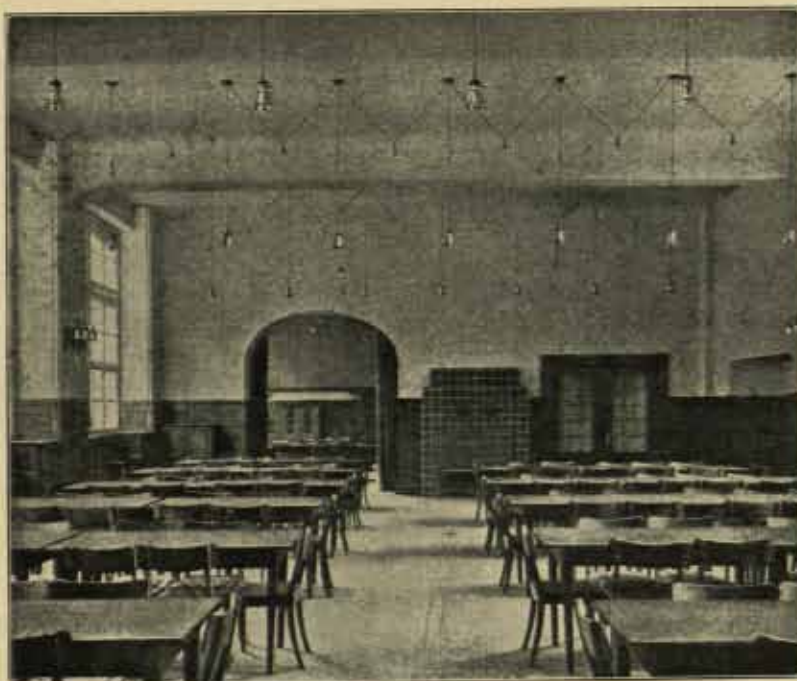


FIG. 38. CENTRAL CONTINUATION SCHOOL, FRANKFORT-ON-MAINE:
ROOM FOR READING AND GAMES.



FIG. 39. CENTRAL CONTINUATION SCHOOL, FRANKFORT-ON-MAINE:
CORRIDOR ON TOP FLOOR.

decade. At present there is a strong tendency in its favour. This decision will, of course, affect the planning of all Trade Continuation Schools fundamentally.

(b) OTHER ROOMS.

Administrative Rooms.—Every school has a study or office for the Director, as the headmaster is called, and connected with it a room for clerks, varying in size according to the number employed. In small schools visitors take a chair in the latter room, but in all large new schools a visitors' waiting-room is provided. Very often there is another small room for private interviews with parents, &c.

A large room, the "Conference Room," is required for the periodical meetings of teachers, and has either a very long table or an L-shaped table in the centre. As a rule this room is also used as a Teachers' Common Room, and sometimes contains the teachers' library in bookshelves round the walls (see Fig. 37). It must be conveniently placed, well furnished, and well lit. Very often it occupies the place of honour over the main entrance. On the table are displayed, as a rule, a large number of current periodicals. The teachers' hats and coats are kept in this room, either in closed lockers or on hooks, and there is always a hand-basin, usually several. The same applies to the Director's room and the clerks' office.

In large schools there is a Teachers' Library in a separate room, containing books of a scholastic and technical character.

Besides the Common Room, which is not quite universal, there should be studies for all the principal teachers, connected with their classrooms or departments. These small rooms in some cases—e.g., at Munich—take the place of a Common Room and seem to be used for different purposes in every school. In most schools in Munich such a room is used by one teacher only, and occasionally by three or four elsewhere. But collections of models, etc., are kept in these rooms, also drawing boards in exceptional instances, and, unless I was misinformed by an architect, the long range of studies between the north classrooms at Karlsruhe (Fig. 28) are to be used also by pupils for making notes and for consulting books.

Residential Accommodation.—Rooms are usually provided for at least one caretaker on the premises either on the basement or ground floor, or in a small detached lodge, as at Gelsenkirchen. At Karlsruhe is a house in the courtyard for two caretakers, and at Mannheim a house for four caretakers, the Mannheim school being a large composite institution.

In many of the new schools accommodation for the Director is also provided, varying from a small flat in the main block to a substantial villa in the grounds, as at Aussig and Dortmund. In the latter case a little stone bridge connects the Director's room on the second floor of the school with the staircase of his house. At two schools in Frankfurt the Director occupies the upper floor of a house, and the caretaker the ground floor or semi-basement.

Rooms for Assemblies and Exhibitions.—It is usual to provide one large hall, for lectures and for public gatherings, in a Continuation School of any type. This may be contrived in a variety of ways. At Bonn there is a lecture-room to seat 300, a gymnasium, and a recreation-room. None of these is, strictly speaking, an assembly hall, yet any one of them would serve the purpose. In the cases where there is a single hall for all public functions and for general gatherings of the scholars, a separate entrance, exits, cloakrooms, and lavatories are provided. The accommodation of these halls is usually small in comparison with the number of the scholars in the school. Frequently provision is made for lantern lectures.

In every Trade School, but not necessarily in a Commercial School, it is usual to provide facilities for exhibitions. These may take two forms. For the guidance of scholars in various trades, models and specimens must be displayed permanently in some convenient position and carefully classified. Provision must therefore be made for glass cases arranged in rows. At Karlsruhe, Stuttgart, and Bruchsal—three schools of very different sizes—cases are arranged in a wide corridor with a side light.

At Stuttgart the result has been achieved with a distinct gain in architectural effect (see Fig. 23). At Karlsruhe another room is provided to house exhibitions for the guidance of teachers. Then space must also be provided for the periodical display of scholars' work. Very often workrooms are utilised, but at Dortmund and elsewhere a large room is set apart for the purpose.

Recreation Rooms.—The last, and in many ways the most striking, group of rooms in a modern German Continuation School is the suite of Recreation Rooms. In some new schools—*e.g.*, Chemnitz and Aussig—and in many old ones these amenities do not exist, but it is now usual to provide accommodation for the "Scholars' Association" (*Lehrlingshort* or *Jugendfürsorge*), which meets, as a rule, every evening in the week and on Sunday afternoon. At least one large room is commonly found for general gatherings, and frequently it also serves as an assembly-hall or as a lecture-room. At Vienna is not only the usual excellent lantern, but also a cinematograph apparatus in the approved type of fireproof room. In these rooms are given lectures on subjects outside the school curriculum, and concerts and dances are also held. How the latter are organised and regulated I am unable to say, but a member of the staff is in attendance at all gatherings to ensure a reasonable measure of discipline. In connection with the large room, known by a variety of names—*Spielsaal, Festsaal, &c.*—is a small kitchen where light refreshments may be prepared—in some cases by the scholars, in other cases by the school servants. Besides the elaborate suite at Vienna, there are excellently equipped recreation rooms in the two schools at Frankfort and in that at Bonn, already described. In the Frankfort and Bonn schools a small room adjoins the large one, intended for reading and for table games.

In many schools other branches of recreation are organised, such as excursions and picnics in the summer. A school Savings-Bank is a usual feature.

The Scholars' Library is generally for recreative reading rather than for purposes of study, but often combines the two in its scope.

All these rooms are attractively furnished and decorated, even in a school which is otherwise severely plain, and the walls are frequently panelled.

Most of the schools have playgrounds and some have gymnasiums, either for the sole use of Continuation Scholars or for use jointly with an Elementary School. Physical drill of various sorts is practised. In some cases gymnastic apparatus is fixed in the playground.

(c) CLOAKROOMS, SANITATION, AND MINOR FEATURES.

Cloakrooms.—There does not seem to be any general rule in Germany as to the design of cloak-rooms, which have now attained some measure of uniformity in this country. Out of some thirty schools visited only two had any special rooms for the purpose—*e.g.*, the Trade School at Frankfort, where are deep alcoves closed by folding iron gates, and the Trade Continuation School at Aussig, where are several rooms with ordinary doors. The latter has screens formed of wire netting to prevent the garments coming in contact with one another. In most of the old schools one still finds the antiquated system by which cloaks are hung on hooks fixed to a dado-rail round the classrooms. Three methods are frequently practised besides the last-named. The most popular consists of a range of metal cupboards (about 5 feet high with a sloping top, 10½ inches to 11½ inches wide centre to centre, 12 inches to 13½ inches deep front to back, and fixed about 6 inches off the floor so that the space beneath may be swept), in the corridors, the fronts being either solid or of wire netting for ventilation. The keys are usually kept by the scholars, less frequently by the staff. This system may be seen at Vienna and at Düsseldorf. The second system consists of cupboards in the thickness of the inner wall of the classroom, with doors opening into the classroom itself, and ventilation either into the corridor (as at Karlsruhe) or into air trunks (as at Stuttgart). The third method consists simply of rows of iron hooks in the corridors, frequently in recesses, without any cover or protection against theft (as at Bonn).

Frankfort, Munich, &c.). In this case pans and clips for umbrellas are provided below the cloak-hooks. It will be noticed that these three methods are all used in modern school buildings.

Cycle Accommodation.—Proper cycle-rooms are provided in all the new schools, usually in the basement, occasionally at ground-floor level in the playground. At Stuttgart and Chemnitz these rooms are entered by a door beneath the double flight of main entrance steps, and at the latter school a sloping way is provided at the side of the steps down to the cycle-room. The cycle-room at Bonn measures 46 feet by 14 feet, but this is exceptionally large.

Punishment Cells.—These quaint survivals still appear in many modern schools. They are small rooms painted grey or black internally, with a window high up and a penitential seat. It is admitted that they are seldom used.

Sanitation.—Mention has already been made of the hand-basin or sink in practically every room. Large sinks are also found in Trade Continuation Schools usually in a corridor or recess, where drawing-boards may be washed and paper "strained" and mounted on them. Another feature usually seen in every corridor is a drinking-fountain, varying from the bare minimum with a tin mug to an artistic structure of daintily coloured tiling or faience, with plated taps throwing an upward jet of water. In all the new schools the drinking-fountain has been considered as a part of the decoration of the corridor.

Baths are frequently installed in the new schools, excellent examples being found at Karlsruhe and Vienna. Their use is not, as a rule, compulsory. They are invariably placed in the basement. In all other details of sanitation we have nothing to learn from Germany, though the lavatories and conveniences in the new schools are excellently arranged.

Heating and Ventilation.—The time at my disposal did not admit of an exhaustive study of this branch of the subject, but the same system was used in all the modern schools with slight modifications. Fresh air was introduced at ground-floor level, usually through windows, in one case through glass louvres (hinged), and at Karlsruhe (pp. 497-98) through an ornamental *tempietto* in the courtyard. The air is then passed through screens for filtration purposes, heated, and taken up in an elaborate system of flues and ducts in floors and walls to all parts of the building. An expensive plant is, of course, required as well as a good deal of labour, and planning becomes more complicated throughout by reason of the great number of flues to be contended with. Moreover, the thickness of walls, and usually of floors also, tends to be much increased in spite of considerable ingenuity displayed in utilising recesses between the flues for cloaks, cupboards, etc.

Lighting.—In all the modern schools visited the lighting was exceedingly well arranged. Practically all electric light in classrooms is diffused, but in certain workrooms powerful arc-lights are fixed, and in the workrooms for watchmakers, etc., small lamps of high candle-power are used.

Construction.—The construction of the modern German Continuation School presents no special features differentiating it from other schools in Germany or in England. Reinforced concrete is gradually coming into use, but not in any remarkable form.

Decoration.—The decoration of nearly all the schools visited was of a high order. In this respect German architects are far ahead of their English contemporaries. Curiously enough, this excellence is usually confined to internal features, and seldom appears on the exterior. The German designer has a singular faculty for producing delicate stencilled patterns on wall-surfaces with the simplest elements and at the minimum of expense. He understands the use of colour, and often contrives a colour-scheme of surprising charm in a utilitarian corridor devoid of architectural features. Many of the most attractive rooms seen by the writer were decorated by students of the evening Trade classes, who are, of course, more advanced than the Continuation scholars. To this skill in mural decoration must be added an equal skill in the choice of glazed tiles, faience, etc. It is a pleasure to turn from the everlasting brown glazed bricks of the L.C.C. to the delicate tints of the German artists, and one seldom emerges from one of these new schools without a feeling of æsthetic satisfaction. German

originality is also displayed in the decorative treatment of walls and other features where a rough surface is intentionally produced. Sometimes this roughness is caused by omitting a floating coat of plaster over the concrete of stair-risers and landings, beams, etc. At other times a form of plaster is used which can be worked with mason's drags, etc., and gives the exact effect of coarse sandstone. These methods may be studied in the school buildings at Dortmund and Karlsruhe respectively. Colour is often applied to those rough surfaces, strong colours, such as dark blue, being used with a boldness well suited to the coarse texture of the material.

VI.

THE PLANNING OF COMMERCIAL CONTINUATION SCHOOL BUILDINGS.

It need hardly be said that a Commercial Continuation School requires little of the special accommodation inevitable in a Trade Continuation School. Indeed, what has been said already of such schools as those at Bonn and Frankfurt applies with almost equal force to this more specialised building.

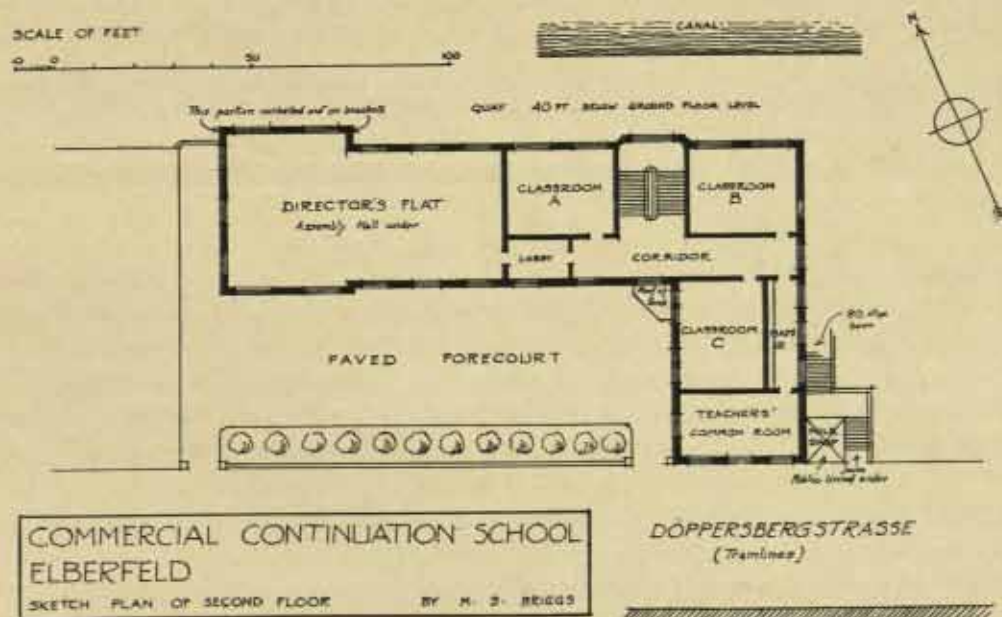


FIG. 40.

The Commercial Continuation School at Cologne (an old building remodelled) has already been described, and a more modern example may be seen at Elberfeld. (See Figs. 37, 40.) Erected in 1912 at a cost of £25,000 (including equipment) from the designs of the City Architect, Herr Schönfelder, this large building stands on one of the sharply sloping sites so common in this city. There are some 1,300 names on the books at the present time, but of these only about 650 boys and 180 girls are Compulsory Continuation scholars, the remainder being voluntary students. The school is, in fact, a Commercial School rather than a Commercial Continuation School—i.e., the latter rôle is considered to be of secondary importance. The main school building is erected on a substructure level with the ground at the entrance, but rising some 40 ft. above the canal quay on the north. This substructure is let for warehouses, etc., and only the heating apparatus, etc., of the school is placed below ground-floor level. The plan shows the general disposition of the rooms, which are as follows:—

Ground Floor : large assembly hall, a Director's room with office adjoining (under " Caretaker B " on plan), apartments for the caretaker and lavatories in the south wing, and a small dark-room.

First Floor: 3 classrooms (as on the floor above, see plan), Library (under Teachers' Common Room), and a residential flat corresponding to that on the floor above, as shown on the plan. (For second floor see plan.)

Third Floor (partly in the roof): 2 classrooms (over "A and B" on plan), a science lecture room over "Classroom C," with preparation room and specimen room over "Teachers' Common Room" and "Maps."

Fourth Floor (in the roof over central portion): 1 small classroom, a large room for typewriting, and some lumber rooms. On the east of the school and adjoining the Döppersbergstrasse is a small milk-shop, the substructure being utilised for a public convenience entered from the first landing on the steps down to the canal.

The external walls are finished in rough-cast, the dressings are of red sandstone, and the roof is covered with red tiles.

The assembly hall on the ground floor provides seats for 170 persons at lecture desks. When used for social gatherings without desks 300 persons can be accommodated. There is a lantern, a blackboard, and black curtains for darkening the room during lectures in the daytime. In the floor of the rostrum is a flush metal fillet, which is really the edge of a rolled lantern screen, and can be pulled up by a ring. This screen displays pictures reflected through it from a lantern *behind it* in the preparation room adjoining. There is also an aluminium screen for use in the ordinary way. A fume-closet in the form of a serving hatch is placed in the wall between the assembly hall and the preparation room.

The accommodation for two Directors is remarkable, the more so when one learns that one of them is not a member of the staff of this school, but is connected with the Lyceum (another quite separate school) across the road. This is only another instance of the constant overlapping and interdependence of the German educational system.

One of the most interesting rooms is the small Library of Maps in the corridor leading to the Teachers' Common Room (see plan). The fine collection of maps is stored in cupboards with revolving-shutter fronts, each map being on a roller and fitted in its own division. Each of the four cupboards is about 6 feet 6 inches wide, and the maps are classified in countries, continents, etc.

The small dark room is for the use of the science teacher only, not for the scholars.

Taken as a whole, this building is an excellent example of a modern Commercial School, but is perhaps too expensively fitted to form an ideal model for a Commercial Continuation School. The essential requirements of either include the usual classrooms and administrative suite, also science rooms, a large and well-lit room for typewriters, a classroom for bookkeeping, with specially wide desks for ledgers, a library, and storage for maps and diagrams.

CONCLUSION.

The purpose of this Report is to describe the type of building now being evolved in Germany and Austria for the remarkable system of Continuation Schools in those countries. It remains to be seen whether England will fulfil the confident expectations of educational prophets by following the German example in a very short time. If that happens, the question of buildings will immediately come under discussion, and English architects will naturally turn to Germany for the results of her experience, just as educationists have been for years studying the benefits of her Continuation School system to industry, commerce, and national efficiency.

. A small handbook on German and Austrian Continuation Schools by the author of this Report will be published shortly by the Board of Education.

REVIEWS.

LITHOGRAPHY.

Lithography and Lithographers. By Joseph Pennell and E. Robinson Pennell. (The Graphic Arts Series.) 4s. Lond. 1915. 10s. 6d. net. [T. Fisher Unwin, 1 Adelphi Terrace.]

The posters of the underground railways and the exhibition in the new galleries at the British Museum of the work of some modern lithographers have done much to familiarise Londoners with the later developments of the revival of the art of lithography. This book, written by Mr. and Mrs. Joseph Pennell, comes opportunely to supplement the interest thus created.

The art of lithography is comparatively a modern one. It was invented by Aloys Senefelder in 1798, and the story of his difficulties and triumphs as told by Mrs. Pennell is an arresting and fascinating one. There have been many attempts to deprive Senefelder of the credit due to him, but modern opinion is agreed that he was the discoverer of the process of reproduction known as lithography, and that later lithographers have simply followed his lead. His *Complete Course of Lithography*, published in 1818, is still consulted and used by present-day workers.

But though lithography was invented by a German, it was in France that its artistic possibilities were most clearly perceived. By the year 1816 lithography had become a fashionable craze in Paris. Lithographic stones and chalks were produced in the salons, while great ladies like Madame Récamier and the Duchesse de Berri, and artists, among whom were Horace Vernet and Isabey, worked at the new art with enthusiasm. In England it was slow in gaining ground, though Prout, Harding, and Bonington were working for the French publishers, notably for Baron Taylor; and it was not until the years 1837 to 1860 that English lithography attained its zenith.

To architects the period is interesting, because in almost all the architectural publications of the time lithography was the method of reproduction. The illustrations were lithographs. Early publications such as those of Greek and Roman antiquities relied on the steel engraver, but this so-called Romantic period of the early Victorian days found lithography more suited to its taste.

In our own library at the Institute these early lithographers are well represented, and modern draughtsmen might turn to their folios with interest and advantage. Prout's two books, *Sketches in France, Switzerland, and Italy* and *Sketches in Flanders and Germany*, published in 1839, are here. Prout could draw, but his weakness lies in the monotony and unvarying quality of his line. The marble of Verona and the stone of Rouen are alike to him, and one notices with a slight sense of shock that the same peasants inhabit Godesberg and Venice. D. Roberts, R.A., is responsible for the two ponderous tomes of *The Holy Land*, published in 1842. This has a long introductory sermon on "Israel" by a learned divine, and was actually published at 100 guineas coloured and 50

guineas plain. The drawings are consummately lithographed by Louis Haghe. They are mostly panoramic in character, the architectural work being of little interest, with the exception of some sheets of Baalbec.

Robert's *Sketches in Spain*, published in 1837, are architectural studies drawn with delicacy and decision, and in contrast to some of Prout's wooden figures a little crowd in Seville Cathedral is a positive delight.

J. D. Harding's *Sketches at Home and Abroad* are also in the Library. They prove him to have been one of the ablest of English lithographers. His drawing of the Palladian arcades at Vicenza is very modern in feeling, and might almost have been made by a Tite Prizeman, though I fear that the crowd in the Piazza would be beyond the powers of most architectural draughtsmen. The nervous directness of his drawing of Bergamo is admirable, and is far removed from the crumbly picturesqueness of Prout's line. Harding's Venetian sketches are not very interesting, but a little lithograph of Caub on the Rhine is wholly charming.

G. Vivian, a little-known artist, is represented by *Scenery of Portugal and Spain*, 1839. The drawings are principally landscape, well drawn, and beautifully lithographed by Louis Haghe. Haghe, indeed, seems to have been all that could be desired as a technician, but his original work is less pleasing. His *Picturesque Sketches of Belgium and Germany*, in two volumes, published in 1840 and 1845 respectively, while conscientious in their topographical accuracy, lack individuality, and Haghe is rather inclined to overdo the trick of printing high lights in Chinese white from a second stone.

J. F. Lewis's portfolios of *The Alhambra* and *Sketches of Constantinople* are here. The Alhambra set were lithographed by Harding, Lane, Gauci, and Lewis himself. Those by Harding are much the best.

In 1839 Joseph Nash published *The Mansions of England in the Olden Time*. Mrs. Pennell thinks these drawings scarcely worthy of the praise lavished upon them by contemporaries or by modern collectors. I find them not only excellent examples of lithography, but also undoubtedly fine drawings. Such plates as "The Drawing Room, Boughton Malherbe, Kent," have more than mere technical virtue.

There are other portfolios in the Library of less interest and merit, such as Richardson's *Studies from Old English Mansions*, published in 1844. In later years the purely architectural drawings of Norman Shaw and Nesfield were reproduced by lithography.

To return to the book under review, the story of the commercial degradation of lithography and its recent revival as an art closes the critical and historical portion. The technical pages at the end are written by Mr. Pennell with his usual vivacity and looseness of literary style. His story of the German printer in Berlin, who was so perturbed by Mr. Pennell's directions and instructions that he finally refused to work "while I was about" is good. In happier days one would have liked to have heard the printer's story of Mr. Pennell.

W. H. ANSELL, A.R.E. [A.]



9 CONDUIT STREET, LONDON, W., 16th October 1915.

CHRONICLE.

R.I.B.A. Record of Honour : Seventeenth List.

Killed in Action.

WALCH, JAMES BERNARD MILLARD [*Student*, 1914], 2nd Lieut., 2nd Queen's Royal West Surrey Regiment. Killed in action in France on 25th September. Aged twenty-three.

"Lieut. Walch died," writes his commanding officer, "after having rendered most excellent and valuable service in pushing forward in the attack with his platoon." He "was killed by a bullet, at about 3.30 p.m., when holding the most forward position reached on 25th September by this battalion in front of and close to Cité St. Etienne." Lieut. Walch, who obtained his commission in May last, was educated at Hitchin Grammar School and at Christ's Hospital, was articled to Mr. T. E. Pryce [A.], of 10 Gray's Inn Square, and afterwards worked for him and for Mr. Walter Millard [A.]. In 1912 he entered the office of Messrs. H. V. Ashley [F.] and F. Winton Newman [F.] as assistant, and remained with them until he joined the Artists' Rifles after the outbreak of war. He passed the R.I.B.A. Intermediate Examination in June 1914.

Died on Service.

WHITBREAD, LESLIE GEORGE [*Student*, 1913], Private, 1st/6th Battalion Manchester Regiment, Territorials. Taken ill near Gallipoli, and died of dysentery on 11th September on his way home. Aged twenty-three.

Mr. Whitbread was articled to Mr. Sydney Moss [A.], and stayed with him afterwards as assistant. Since then he has been assistant to Mr. Arthur Brocklehurst, of Manchester. "A very able man and showed great promise," writes Mr. Moss.

Wounded.

BAILY, BASIL EDGAR [F.], Major, 7th Battalion Sherwood Foresters. Wounded in France, and now in hospital in London. Progressing favourably, but has unfortunately lost his right hand.

Newly enlisted in H.M. Forces.

The following is the Seventeenth List of Members, Licentiates, and Students who have enlisted in the Army or Navy for the period of the War, the total to date being 45 Fellows, 339 Associates, 174 Licentiates, and 216 Students :—

ASSOCIATES.

Barrow, S. E. : Lieut., 5th Bn. King's Own Royal Lancaster Regt.
Hennell, Sidney T. : 20th Bn. The Welsh Regt.
Papworth, A. Wyatt : Artists' Rifles.
Peerless, H. R. : 2nd Lieut., 3rd/8th Sherwood Foresters.
Pritchard, W. : 2nd Lieut., Royal Field Artillery.

LICENTIATES.

Beattie, O. Keith : 2nd Lieut., 64th (Highland) Div. Train, A.S.C.
Bolcher, Alan L. : 3rd/2nd Div. London, R.E.
Edwards, J. P. : 25th Bn. Royal Fusiliers.
Harbron, Dudley : 2nd Lieut., 3rd/9th Durham Light Infantry.
Peake, Frank : 3rd Bn. H.A.C.
Richley, Norman : 2nd Lieut., 22nd Northumberland Fusiliers.
Rodeck, P. : 2nd London Sanitary Coy., R.A.M.C. (T.).
Sewell, R. V. T. : 2nd Lieut., R.E.
Strong, F. D. : Signal Coy., South African Overseas Exp. Force.

STUDENTS.

Bowes, Trevor S. : 2nd/3rd Monmouthshire Regt.
Gaskell, R. R. : 2nd Lieut., R.E.
Skinner, T. A. : 2nd Lieut., 3rd Gloucester Regt.
Weston, Kingsley V. : 2nd Lieut., 4th Bn. West Yorks Regt.

Honours, Promotions, Appointments, &c.

It is announced in a Supplement to the *London Gazette* that the King has been graciously pleased to confer the Military Cross on Lieut. William Harold Hillyer [*Student*], 3rd London Field Coy., R.E., T.F. (attd. 171st Mining Co.), "For conspicuous gallantry and devotion to duty in mining operations at 'Hill 60' near Ypres, between 2nd and 17th April 1915. The task of completing and charging one of our mines was one of great difficulty and strain. Lieut. Hillyer worked and watched long hours at the end of a gallery 155 feet long and 3 feet by 2 feet 3 inches in size, knowing that the enemy was countermining close by. His pluck and endurance were remarkable, and resulted in the successful explosion of the mine and consequent capture of the hill." Lieut. Hillyer, who was wounded at Festubert on the 12th May, was mentioned in Sir John French's dispatch of the 31st May for gallant and distinguished service in the field, and has since been promoted Captain.

Lieut. GEORGE WM. RIDLEY [A.], of the 4th Royal Sussex Regiment, has quite recovered from wounds received at Gallipoli, and has been promoted Captain, the promotion dating back from the 9th August. His brother, Captain Basil White Ridley [*Student*], wounded in Flanders on the 3rd September, is making a good recovery, his wounds being almost healed.

MR. H. P. G. MAULE [F.], formerly Company Sergeant-Major of the H.A.C., has been given a commission and the post of Camp Commandant.

MR. H. S. JARDINE [A.], late of the 1st Battalion London Scottish, has been gazetted 2nd Lieut., 3rd/1st London Field Company, R.E.

MR. J. W. GILMOUR WILSON [*Student*], chief assistant to his father Mr. W. B. Wilson [F.], who has been for six years a member of the London Scottish, has just received a commission as 2nd Lieutenant in the Mechanical Transport Division of the Army Service Corps.

Capt. Douglas Carmichael ; Capt. Bernard Holloway.

The sympathies of architects will go out to Mr. James Carmichael, the well-known London builder, in the loss he has sustained by the death of his gallant young son, Captain Douglas Carmichael, who fell in the recent fighting in France. Captain Carmichael was only twenty-one years of age, and one of the youngest of his rank in the Army. He was educated at Leys School and Jesus College, Cambridge, and passed out of the University with honours. He had just entered his father's business at Trinity Road, Wandsworth, when the War broke out. He obtained a commission as Second Lieutenant in September of last year, was promoted First Lieutenant in

the following month, and Captain in March last, being placed in charge of the Machine Gun Section. His commanding officer, Colonel W. Villiers Stuart, in a letter to Mr. Carmichael pays striking tribute to the young officer's bravery. "He fought that day (he says) with infinite courage—I have no words, and no one else could have any, to express his magnificent bravery. I shall never see a soldier like him again; it is quite impossible that anyone so fearless could ever be found. He carried four lines of trenches with his company under a most desperate artillery and machine-gun fire, and when masses of Germans came against him, by his wonderful personality he kept his men, now reduced to a handful, in good spirits and led them again and again to the attack. They say it was glorious to see him throw himself on the packed masses of Germans and almost alone force them back. He rallied the men over and over again, and they stuck till the end. He was wounded early in the day, about 5 a.m., but, just like him, made nothing of it. He was killed instantaneously by a bullet in the forehead as he was once more leading a bomb charge. I asked for a D.S.O. for Douglas before, and I hoped every day it would come for him. Now I have asked for the V.C. for you, for he would have earned it ten times had he lived. It is heartrendingly sad that he had to go." Mr. Carmichael has also received a letter from Sergeant W. Walker, Machine Gun Section, who writes: "Captain Carmichael was in command of the attack on the morning of the 25th, and right well did he lead us until he was hit in the leg. Then we pushed forward alone, as he refused to have any assistance; but just after I saw him hopping on one leg towards the next line of German trenches under a murderous fire. We took three lines in all, but had to retire owing to lack of bombs and reinforcements. Your son was still in command, absolutely refusing to be taken back. On reaching the original German front line, he rallied the small handful of men left and told us to hold it at all costs, which we did against masses of Germans until almost every man was either killed or wounded. Your son was killed with a machine gun, and I was twice wounded at the same time. It was instantaneous, and his last words were, 'For God's sake, boys, hold them back.' He earned the V.C. fifty times over."

Members will also regret to learn that a similar bereavement has befallen another well-known London builder, Mr. Henry Holloway, of the firm of Messrs. Holloway Brothers, whose son, Captain Bernard Henry Holloway, of the Royal Sussex Regiment, was killed in the same action. Captain Holloway, who was twenty-seven years of age, was also educated at Leys School and Jesus College, Cambridge.

The Architects' "Roll of Honour."

The *Architect*, in its issue of the 8th October, published the first instalment of the "Roll of Honour," of the names of architects, architects' assistants, teachers, and students who have joined His Majesty's Forces for the period of the War, together with the units to which they are attached. The list is based on that prepared at the R.I.B.A.; it runs well into 1,700 names, and fresh names are being added every day. The names are printed in a good clear letter, in alphabetical order, one line at least being devoted to each name, and the "Roll" is distinguished from the rest of the issue by an ornamental border set round each page. This first batch of names makes four pages and carries the list down to "Haalam, J." The "Roll" will be continued in successive issues of the *Architect* until completed.

Formation of the Civic Arts Association.

A memorandum issued by the promoters of the newly-formed Civic Arts Association gives the follow-

ing description of the aims and objects of the movement:—

"At the present time, when the Empire is organising all its resources, not only to meet the present emergencies, but also to grapple with the serious questions which will arise after the war, it is felt that not only the material power of the nation, but its moral power must be concentrated in order to attain the end in view; and it may not unreasonably be urged that in this great effort the arts also should have their place, for artists feel that the passion and sincerity which they put into the work of their hands can be fruitful, even in war-time. There is no doubt that there will be a general desire to put up permanent memorials commemorating the spirit of self-sacrifice shown by those who have engaged in the war. Towns and villages will be anxious to commemorate those who have gone from them; Universities and Schools will desire to pay homage to their sons; private individuals will wish to record the devotion of their kinsmen; and business firms will desire to honour those who have given up their callings to serve their country. Such memorials should be excellent both in design and workmanship, and some should be within the reach of those who have but small means. It is feared that unless thought is directed to the artistic importance of such a movement, many memorials will be unworthy and trivial in character.

"An Association has been formed whose first business will be to offer prizes for suitable designs and to hold an Exhibition. Committees will be appointed to advise those who wish to put up memorials and to bring them into touch with suitable craftsmen. The Association is further considering a scheme for expressing sympathy with our Allies by gifts which might take the form of works by British craftsmen, suitable for presentation to ecclesiastical or civil authorities in the ruined districts. Support is invited which may take the form of donations towards the general fund, or specifically for particular objects of the Association, or of an annual subscription of 5s."

Among those who have already promised their co-operation and support are Sir Edward Poynter, P.R.A., K.C.V.O. [*Hon. F.*], Sir Aston Webb, K.C.V.O., C.B., R.A. [*F.*], Sir Wm. Goscombe John, R.A. [*Hon. A.*], Frank Dicksee, R.A. [*Hon. A.*], Sir F. Kenyon, K.C.B., Count G. N. Plunkett [*Hon. A.*], Professor W. R. Lethaby [*F.*], Halsey Ricardo [*F.*], Lord Henry Cavendish Bentinck, M.P., Viscount Cobham, Sir Guy F. Laking, Bart., and a large number of other influential people. All communications should be addressed to the Secretary, c/o The Hon. Rachel Kay-Shuttleworth, 28 Prince's Gardens, S.W., and cheques should be made payable to the Hon. Treasurer of the Civic Arts Association.

The London Society.

The October number of the *Journal of the London Society* states that the efforts made by the Society to preserve Wren's church of St. Vedast, Foster Lane, have been so far successful that, in the event of the suggested road from Newgate Street to Liverpool Street being found necessary and practicable, it will be possible to form the road without materially interfering with either the use or the appearance of the church. The new building about to be erected on the site of the old Post Office is to be placed farther north than was originally intended, thus leaving a space between it

and the buildings in Cheapside. The result of this will be that the view of the church spire from Newgate Street will be preserved, and the need for the destruction of the church avoided, if at any time the new road becomes necessary. It is interesting to note also that the Corporation of the City of London have reconsidered the question of the traffic requirements at this busy corner, and that St. Martin's-le-Grand is to be widened to 80 feet in lieu of 70 feet as originally proposed, and that the western end of Cheapside is to be widened to 95 feet. This is mainly due to the increased traffic which it is anticipated will result from the construction of the proposed St. Paul's Bridge, should it ever be built. The prime mover in this matter has been Mr. Arthur Crow [F.], and the Council of the London Society have passed a special vote of thanks to him for the time and energy he has devoted to the subject.

The Society propose to give two lectures—one in November, by Sir Laurence Gomme [*Hon. A.*], on "Open-air Cafés and Places of Amusement"; and another, probably in January, by Mr. Arthur Crow on "The Port of London Improvements." The lectures will be given at 5 o'clock to enable those members who live out of London to get away early. It is hoped these lectures will be sufficiently well attended to encourage the Committee to arrange further meetings.

The Society promise the publication of a series of plans of Historic London showing the various stages of its development from Roman times to the present day. The plans, which have been prepared under the direction of Mr. W. R. Davidge [*A.*], constitute a most valuable record of the past, and many useful lessons are to be learnt from them.

The Christmas-in-War-Time Sale.

The Professional Classes War Relief Council are organising a Christmas-in-War-Time Sale, the proceeds of which are to be applied for the relief of members of the professional classes who have been hit by the War. The need for relief is very urgent, for the present condition of previously well-to-do professional people is in many cases truly pitiful. It is the more fortunate members of the professional classes whom the Council are relying upon to help their suffering brethren. Without actually giving money, there are few but could give a little of their time and skill to making some article that they know they can make, which could be sold for the benefit of those in want. The Professional Classes War Relief Council ask for 10,000 gifts which they could sell at 5s. each in aid of the Fund. The "Gifts Secretary" will supply to those willing to help lists of articles suggested as suitable for the Sale. They include knitted goods, needlework, handicrafts (jewellery, leather, cretonne, and basket work), games, toys, and wood-work (to include wood-carving, poker-work, &c.), cooking, and sweets of all kinds. Prizes will be given for the best-made articles in the various classes. The prizes will be selected by the winners from the "Exhibition of

Arts and Crafts in War-Time"—a permanent exhibition held daily at 13 and 14 Prince's Gate, S.W., and made up of the works of artists and craftsmen who are suffering through the War. Anyone whose time is too fully occupied to take an active share in the work is earnestly requested to send 5s. with which to purchase a gift to be sold in his name. The following are some of the forms of relief given by the Council:—

Education.—To enable children to be kept at suitable schools (usually by special arrangement as to fees with the schools) so that their education is not interrupted or neglected.

Training.—To train adult daughters of professional men and their younger sisters whose school life is permanently cut short in Domestic Economy, Nursing, Teaching, Secretarial Work, etc. Also to enable male students to continue their professional training.

Maternity Aid.—By maintaining a Nursing Home at 14 Prince's Gate, and in rendering assistance at their own homes for those unable to leave.

Temporary Employment.—For those who will be able to return to their normal work at the end of the war. In many cases the employment is subsidised by the Council.

Arts in Wartime.—Special exhibitions are held in order to sell works of art. Orders are obtained, other employment is found for artists, and often paid for by the Council.

Music in Wartime.—Concerts are arranged in camps and hospitals, in order both to cheer the soldiers and give employment to the musicians. Fees are paid by the Council.

All information about the Sale may be had from "The Gifts Secretary, Professional Classes War Relief Fund, 13 and 14 Prince's Gate, S.W." It is important that the Gifts Secretary be informed early of the kind of gifts it is intended to send, and money subscriptions should be sent at the earliest possible date.

District Surveyors: Interim Appointments.

The Building Acts Committee of the London County Council reported at the Council meeting last Tuesday that they have consented, under section 142 of the London Building Act, 1894, to the appointment of deputy District Surveyors in twenty cases. In order to fill temporary vacancies for District Surveyors they have appointed Mr. A. G. Morrice [*A.*], District Surveyor for Streatham East, to be interim District Surveyor for Streatham West; Mr. W. R. Davidge [*A.*], District Surveyor for the district of Lewisham, to be interim District Surveyor for the district of Woolwich; Mr. H. T. Bromley [*A.*], District Surveyor for Whitechapel, to be interim District Surveyor for Bethnal Green West; and Mr. E. W. Knight, District Surveyor for Bromley, to be interim District Surveyor for Poplar All Saints. Each of the appointments dates from 1st October 1915, and will continue during the pleasure of the Council. The Committee state that they have adopted the course of appointing existing District Surveyors temporarily to these positions as they thought it unwise to recommend the Council to appoint any new District Surveyors during the War.

L.C.C. Regulations as to Reinforced Concrete.

The L.C.C. Building Acts Committee report that the Local Government Board has allowed the Regulations made by the Council on 6th July 1915, under

section 23 of the London County Council (General Powers) Act, 1909, with respect to the construction of buildings wholly or partly of reinforced concrete and with respect to the use and composition of reinforced concrete in such construction. The Board has fixed 1st January 1916 as the date upon which the Regulations shall come into operation.

National Competition, Examinations in Art, &c., 1916.

The Board of Education have issued a circular from Whitehall stating that in view of the urgent need for national economy and other circumstances arising out of the War, the following changes will be made in their arrangements for the National Competition, Examinations in Art, and Awards in Art, 1916:—

1. The Board will not hold a National Competition in 1915.
2. The Board hope to be able to hold the Examinations in Art as usual, and have issued Regulations for 1916 accordingly. They desire, however, to give notice that it may prove necessary at a later date to suspend the Examinations. In that event they will endeavour to give as long notice of the change as possible.

3. The Interim Regulations for Scholarships, Exhibitions, Free Studentships, and other Awards in Art applicable to the year 1914 are provisionally continued in force subject to the following modifications: (a) The Royal Exhibitions, National Scholarships, Free Studentships and Local Scholarships to be awarded in 1916 may be restricted to numbers less than those stated in paragraph 1 of the Regulations. (b) The Board may find it necessary to restrict the number of new Local Exhibitions in Art to be aided under the provisions of Chapter II. of the Regulations. (c) The award of Princess of Wales' Scholarships may be suspended for 1916, or, if continued, will be made on conditions to be announced later. (d) The Board will not hold Short Courses of Instruction in Art at the Royal College of Art in 1916. (e) The Grants in aid of visits to Museums and Centres of Art Instruction will be suspended until further notice.

4. The Board desire to take this opportunity of giving notice that at some future date after the conclusion of the War they propose to hold one further Special Examination for the benefit of candidates who had almost completed the requirements for the Art Class Teacher's Certificate and the Art Master's Certificate when the old Regulations expired. Provision will be made for the re-examination of (a) persons who were examined in 1914 in subjects necessary to complete an Art Class Teacher's Certificate or an Art Master's Certificate, as the case may be, but failed in one or more of those subjects; (b) persons who, having the Art Class Teacher's Certificate, were examined in 1914 in Drawing from the Life or Drawing from the Antique and have obtained, then or previously, at least a Second Class in each of these subjects. The detailed arrangements will be announced in due course, and at least three months' notice will be given of the Special Examination.

The Chadwick Public Lectures.

Among the series of Chadwick Public Lectures in course of delivery this autumn are a Paper by Mr. A. Saxon Snell [F.] on "Emergency Military Hospital Construction," to be read at the R.I.B.A. Galleries, 9 Conduit Street, on the 10th November at 8.15 p.m.; and a Paper by Mr. W. E. Riley [F.] entitled "Some Conclusions on Housing our Workers," to be read at the Royal Sanitary Institute, 90 Buckingham Palace Road, S.W., on the 17th November at 8.15 p.m. Mr. John Slater [F.], Chadwick Trustee, will preside at the former meeting; and Sir William J. Collins, K.C.V.O., Chairman of the Chadwick Trustees, at the latter.

University of London School of Architecture.

The Carpenters' Company Evening Design Class meets on Mondays and Wednesdays at 6.45 during the first and second Terms (October to March). The first meeting was held on Wednesday, October 6th.

Students can take up either: (I.) Special subjects set at the beginning of each Term which include both practical and academic problems. The subjects to be set in October are: (a) A Hostel for Women in London. (b) A Tea Pavilion, courtyard and landing stages on an island in the Upper Thames. The subjects to be set in January will be announced later. Or (II.) The subjects set by the R.I.B.A. as Testimonies of Study for their Final Examination, particulars of which are published in the R.I.B.A. JOURNAL. Students are required to finish their designs, but these need not be submitted until the end of the College Session, about 30th June. Prizes are awarded at the end of the Session. The class is under the direction of Professor F. M. Simpson [F.].

A Travelling Studentship of £25, instituted by the Carpenters' Company, will be awarded at the end of the Session to the best Student possessing sufficient merit in either the Day or Evening Classes. Students of the Design Class, by permission of the Carpenters' Company, can attend the practical demonstrations at the Trades' Technical School, Great Titchfield Street, without further payment. These classes are held on two evenings a week during the Winter and Spring Terms. Students can obtain permission to use books from the Technical Library of the Carpenters' Company and the Departmental Library of the School of Architecture. The Design Class (Professor Leslie Wilkinson, Instructor) is held under a grant from and at the expense of the Carpenters' Company, and is consequently open to the Students at low fees.

For further particulars and for information regarding the Day Courses application should be made to Walter W. Seton, M.A., D.Litt., Secretary, University College, Gower Street, W.C.

Lecture on Santa Sophia, Constantinople.

Professor F. M. Simpson [F.] will deliver a public lecture at University College on "Santa Sophia, Constantinople, and the Mosques of Constantinople and Brusa," at 5.30 p.m. on Thursday, 28th October. Admission to the lecture will be free by ticket, to be obtained from the Secretary of University College on application, enclosing a stamped addressed envelope.

British Museum Precautions.

The Trustees of the British Museum have been in communication with the authorities charged with the oversight of public buildings, and all possible precautions have been taken to subdue the lighting both inside and outside the Museum buildings. Special steps have been taken to safeguard the treasures of the Museum. The Elgin Room, for instance, has been closed to the public, the pedimental sculptures of the

Parthenon having been removed to a strong-room specially constructed in the basement, and the Parthenon Frieze, which is elaborately fixed to the walls, is protected by sandbags and an anti-combustion material. The Portland Vase, the Rosetta Stone, and any other of the more precious contents of the Museum have also been removed to the basement.

Victoria and Albert Museum.

The collection of bronzes by M. Auguste Rodin, presented by the sculptor to the Victoria and Albert Museum, have been returned from Edinburgh, where they were exhibited on loan by the Royal Scottish Academy during the summer, and replaced in the West Hall of the Museum, where they are now on view.

Artists' War Relief Exhibition.

All concerned in the organisation of the Artists' War Relief Exhibition, held at 9 Conduit Street under the auspices of the Imperial Arts League and the R.I.B.A., are to be congratulated upon the result. The accounts are not yet closed, but it is understood that at least £500 has been realised, and this will be a very welcome addition to the funds. Architects and their brother artists, the painters, black-and-white artists and sculptors, have proved that a harmony of intention in agreeing to a joint exhibition can be easily maintained and developed, and it is gratifying to find that this cordial good-fellowship is appreciated by the public, which has been induced to invest so substantial a sum in their work. It is a curious fact that the sales on behalf of the Imperial Arts League amount to about the same sum as that realised for the R.I.B.A. sales. Though the Exhibition was closed on the 2nd October and the sold pictures have been delivered to their new owners, an interesting remnant is left, and these have been hung in the long corridor gallery at No. 9 Conduit Street, where they may still be viewed by the picture-loving or picture-buying public on presentation of a visiting-card at the office of the R.I.B.A.

At a recent meeting of the Council of the Imperial Arts League it was proposed by Mr. David Murray, R.A., and seconded by Mr. C. F. A. Voysey, "That a hearty vote of thanks be given to the President and Council of the Royal Institute of British Architects for the kind loan of their galleries to exhibit pictures acquired by the Imperial Arts League War Emergency Committee in aid of their Fund."

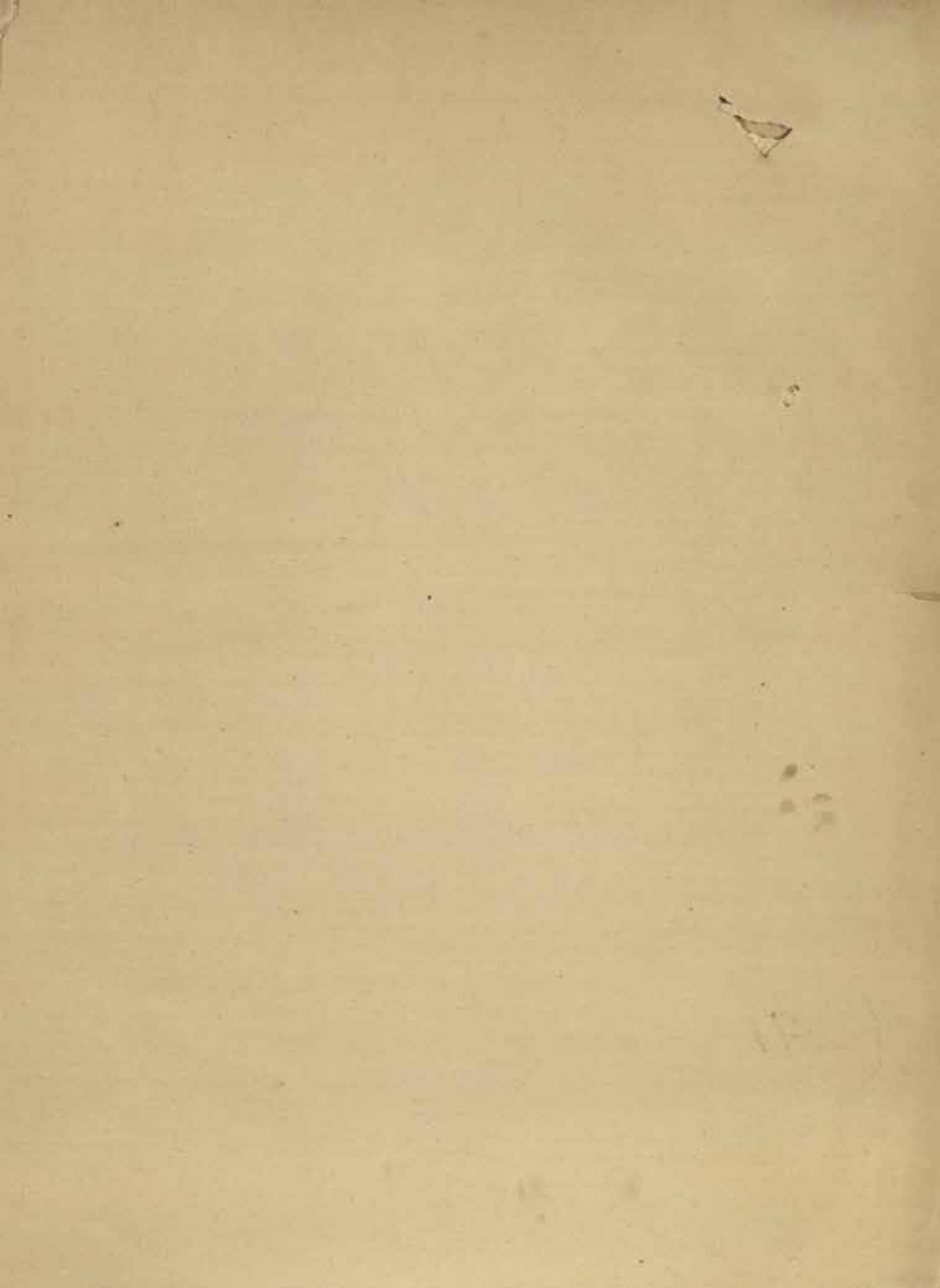
THE EXAMINATIONS.

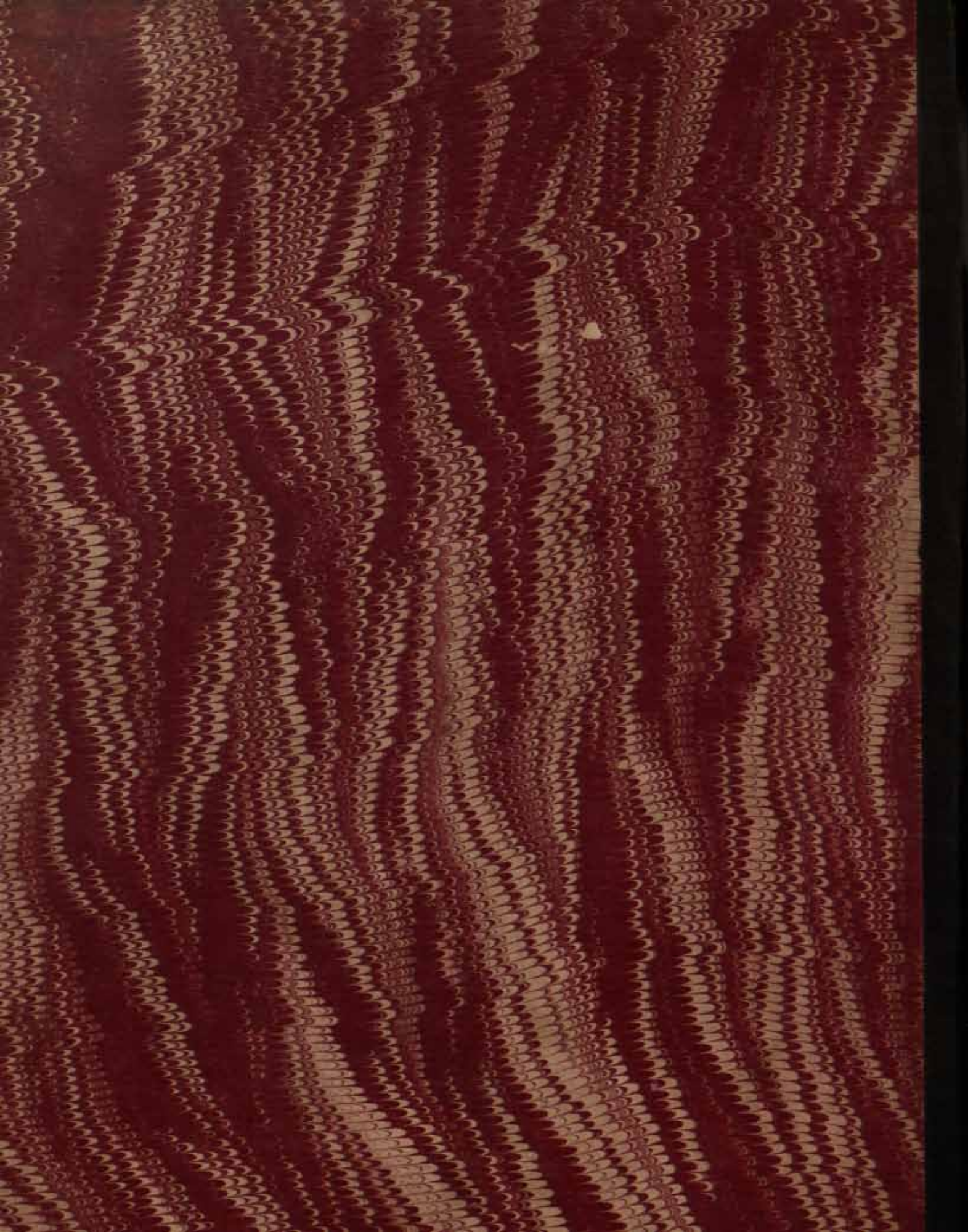
Discontinuance of the Preliminary.

The Council give notice that the Preliminary-Examination of candidates for Registration as Probationers will be held probably for the last time next month. The Regulations which will come into force after its discontinuance will be published as soon as possible.

OBITUARY.

John Tavenor Perry, who died on the 23rd September at the age of seventy-five, was for forty years a member of the Institute, having been elected Associate in 1864 and Fellow in 1896. He gave up his membership on retiring from practice some twelve years ago. Born at Chelsea in 1842, he was articled to the late Professor Hayter Lewis in 1859, and attended the Royal Academy Schools. He was awarded the Institute Silver Medal for drawings in 1864, and was the first to hold the Pugin Travelling Studentship on its inception in 1865. He started practice at 9, John Street, Adelphi, in 1864, and was afterwards associated in partnership with his fellow-pupil Frederick Henry Reed (F.R.S.). Among buildings designed and erected by him are the schools and vestry of the Chapel Royal, Savoy; the Alhambra Theatre, Leicester Square; the Hôtel Cecil, Strand, and the Hôtel Métropole, Swansea; Union Assurance Office, Wilhelmstrasse, Berlin; the Lady Altar, Augustinian Convent Chapel, Bruges; North Wing of University College, London; Castlemount, Dover; Kensington Court Mansions; Schoolhouse, Rochester, for the Dean and Chapter, and the restoration of the Refectory, St. Martin's Priory, Dover. Mr. Tavenor Perry had travelled a good deal in his time, and was indefatigable with his pencil. Possessed of a polished intellect and a well-stored mind, his labours in the field of architectural literature bear witness to the high quality and versatility of his powers. His published work includes "Chronology of Medieval and Renaissance Architecture" (John Murray), "St. Martin's Priory, Dover" (Parker), "Antiquities of Durham" (Parker), "Bletchingly: a Disenfranchised Surrey Village" (Batsford), "Plaxtole" (Batsford), "Dinanderie: Medieval Art Work in Copper, Brass, and Bronze" (George Allen), and a large number of essays and articles in the *Burlington Magazine*, the *English Illustrated Magazine*, the *Antiquary*, *Reliquary*, *Reliquary and Illustrated Archaeologist*, and the London architectural journals. He was the first editor (with Mr. E. J. Tarver) of the *A. A. Sketch Book*, and in later years was the editor of "Old Middlesex," contributing himself the chapters on the County of Middlesex, the Story of Chelsea, and the Pilgrimage of the Brent. He was author of the Papers on the Royal Residences in Surrey in Dr. Cox's "Memorials of Old Surrey," and of various Papers for "Memorials of Old London," "Memorials of Old Sussex," "Memorials of Old Kent," and "Memorials of Old Durham." He served for some time on the R.I.B.A. Literature Standing Committee, and contributed several Papers to the *TRANSACTIONS* and *JOURNAL*, including "Medieval Antiquities, Durham" [*TRANSACTIONS*, 1865-66], "The Medieval Brickwork of Pomerania" [*TRANSACTIONS*, 1873-74], "Medieval Architecture in Sweden" [*TRANSACTIONS*, 1890-91], "The Influence of the Hanseatic League on the Architecture of Northern Europe" [*JOURNAL*, 1893-94], "Damme, a City of the Netherlands" [*ib.*], "Some Recent Discoveries at Nemi" [*JOURNAL*, 1895-96], "The Medieval Campanili of Rome" [*JOURNAL*, 1896-97], and minor contributions. He had a wonderful faculty for the delineation of architecture, and though he must have turned out hundreds of drawings in his time, there exist none but seem traced with the greatest pains and care. He was a strenuous worker at all times; as an architect it was his invariable practice to write out his own specifications, to draw all full-sized details, and to make the pen-and-ink sketches with his own hand.





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